Gid NYC pou

egzamen admisyon lekòl segondè espesyalize (SHSAT)

pou admisyon 2025

Enfòmasyon ki nan gid sa a se enfòmasyon presi nan moman piblikasyon an men yo ka chanje. Tcheke pou jwenn enfòmasyon ki pi resan nan **schools.nyc.gov/SHS**, **schools.nyc.gov/High**, ak nan **MySchools.nyc**.

NYC Public Schools

Kontni

1.0 Prepare pou pran SHSAT a

Fanmi sipoze gade seksyon sa a ansanm pou timoun yo ka byen prepare pou egzamen an.

1.1 Konnen akisa pou atann ou

☐ **Fè w abitye avèk fason yo bati egzamen an lè gade bagay sa yo nan manyèl sa a:**

- dekri egzamen an
- de modèl egzamen konplè yo
- korektòm ak eksplikasyon pou chak modèl egzamen
- modèl anplis pou kesyon matematik an griy yo
- kesyon ki espesifik pou modèl pou klas 9yèm ane yo (si w ap pran egzamen an kòm yon elèv klas 9yèm ane)

☐ **Fè w vin abitye avèk bagay ki nan modèl yo.**

- Modèl pou ELA kòmanse nan paj 7.
- Modèl pou matematik kòmanse nan paj 20.

☐ **Fè w abitye avèk eksplikasyon pou chak seksyon pou w kapab:**

- byen konprann kisa ou gen pou fè pou chak pati egzamen an: Revize/edite Pati A & B, konpreyansyon lekti, Grid-In matematik, ak chwa miltip matematik
- kapab konsantre tan w pou reponn kesyon yo olye pou li eksplikasyon nan jou egzamen an

☐ **Fè w abitye avèk fèy repons lan ki nan egzamen pratik la pou w kapab:**

- fasilamn ekri non w, nivo klas ou, ak dat nesans ou nan jou egzamen yo avan w kòmanse egzamen an
- fasilman ak rapidman make repons ou yo yon fason apwopriye dèke egzamen an kòmanse nan jou egzamen an

1.2 Pran egzamen pratik la

☐ **Fè yon plan.**

- Gen de modèl egzamen nan pake sa a, epi ou ka itilize yo nan nenpòt jan ou vle; nou ankouraje w pou itilize omwen youn nan egzamen yo pou pratike pran yon egzamen konplè nan dire tan tankou ou t ap pran egzamen an toutbon.
- Ou gen 180 minit pou fini egzamen an; elèv k ap aprann lang anglè (English Language Learners, ELL) oswa elèv ki gen tan anplis kòm yon akomodasyon ki apwouve gen 360 minit pou fè egzamen an.
- Ou ka kòmanse egzamen an nan nenpòt seksyon/pati ou vle, donk deside alavans nan ki lòd w ap pran egzamen an.
- Ou ka divize tan an ant seksyon ELA a ak seksyon matematik la nenpòt jan ou vle.

☐ **Enprime modèl fèy repons SHSAT a**

◯ **Kontwole minit 180 minit yo bay pou egzamen an avèk yon mont oswa yon revèy.**

◯ **Kòmanse reponn kesyon swa nan seksyon ELA oswa nan seksyon matematik la.**

- ■ Sonje, se oumenm ki pou deside nan ki seksyon w ap kòmanse!
- ■ Fè atansyon lè w ap travay, men kontinye avanse nan yon ritm ki konfòtab.
- ■ Pa pase plis pase de minit nan okenn kesyon.

◯ **Nwasi repons ou yo nan fèy repons la pandan w ap travay nan chak kesyon.**

◯ **Ou dwe nwasi tiboul yo konplètman.**

- ■ Ou dwe anrejistre tout repons yo nan fèy repons egzamen an AVAN tan an fini. *Sonje: Yo p ap ba w tan anplis pou make repons ou yo nan fèy repons la!*

SAMPLE ANSWER MARKS				
Ⓐ	Ⓑ	Ⓒ	●	**RIGHT**
Ⓐ	Ⓑ	Ⓒ	Ⓓ	WRONG
Ⓐ	Ⓑ	Ⓒ	Ⓓ	WRONG
Ⓐ	Ⓑ	Ⓒ	Ⓓ	WRONG
Ⓐ	Ⓑ	●	●	WRONG

◯ **Yon repons ou devine apati sa w deja konnen kapab se bon repons la.**

- ■ Fè sa lè w elimine chwa repons ki pa bon definitivman, epi chwazi youn nan chwa ki rete yo.
- ■ Nòt ou pran an baze sou kantite repons *kòrèk* ou make sou fèy repons la. Akòz pa genyen penalite pou move repons, si w sote yon kesyon sa p ap ba w okenn avantaj.

◯ **Tcheke travay ou si w rete tan.**

- ■ Si w fini avan lè, gade repons ou yo ankò pou asire ke ou suiv eksplikasyon yo, ou pa sote okenn kesyon, ni ou pa fè fot atansyon. Sonje: pa gen pinisyon pou repons ki pa kòrèk, kidonk asire w pa kite okenn kesyon vid!
- ■ Ou dwe rete nan sal egzamen an pandan tout tan egzamen an ap dire a (180 minit).

1.3 Tcheke repons ou yo nan modèl egzamen w lan

◯ **Lè w fin fè premye modèl egzamen ou a, konpare repons ou yo ak lis repons kòrèk yo.**

- ■ Li eksplikasyon kesyon ki kòrèk yo pou wè ki kalite erè ou fè.
- ■ Tcheke tou pou wè si se menm tip erè yo ou toujou fè.
  - • *Egzanp ELA: èske ou te rate anpil kesyon sou ide santral la oswa sou objektif otè a?*
  - • *Egzanp matematik: èske ou te rate anpil kesyon paske ou fè move kalkil?*
- ■ Chèche opòtinite pou fè plis pratik kote ki te pi difisil pou ou yo.

1.4 Kòman pou prepare pou seksyon ELA a

Seksyon ELA a gen 57 kesyon ak chwa miltip ki evalye kapasite pou revize/edite ak konpreyansyon lekti. Kesyon sa yo adapte avèk **Nòm ofisyèl aprantisaj ELA Nouvèl Jenerasyon ak nòm ofisyèl matematik Eta Nouyòk (New York State Next Generation English Language Arts and Mathematics Learning Standards).** Paj ki vin apre a bay konsèy pou reponn kesyon revizyon/edisyon ak konpreyansyon lekti yo.

Rezime pou revize/edite Pati A

Konesans lang yo evalye nan seksyon sa a baze sou seksyon lang nòm aprantisaj Eta Nouyòk pou klas 7yèm ane, ansanm avèk konesans oswa nòm yo te ka entwodui nan klas avan yo. Chak kesyon mande w pou li yon fraz, yon lis fraz oswa yon paragraf ki gen fraz nimewote. Apresa yo mande w pou rezoud pwoblèm ki gen rapò ak konvansyon langaj oswa ponktiyasyon. Pami egzanp yo ou gen:

- chwazi pi bon koreksyon pou yon erè
- idantifye yon fraz ki gen yon erè
- melanje fraz oswa revize pati yon fraz pou amelyore tèks la

💡 **Konsèy pou Revize/edite Pati A**

Dabò, li kesyon an.	➤ Pou pifò kesyon yo, li kesyon yo dabò olye pou li tèks la anpremye, pou w ka konnen ki tip pwoblèm pou chèche pandan w ap li tèks la.
Apresa, li tèks ki nan kazye a epi pran nòt sou pwoblèm ou wè yo, pandan w ap veye lè a.	➤ Èske gen mo, ekspresyon oswa fraz ki difisil pou li akoz yon erè nan izaj langaj oswa ponktiyasyon? ➤ Èske gen kèk pati nan tèks la yo ta ka ekri pi klè, pi kout oswa pi presi? ➤ Make tèks la byen vit lè w wè yon erè. Sa ka ede w chwazi yon opsyon pou repons. ➤ Sonje nòt ou yo ta dwe konsantre sou sijè espesifik kesyon.
Planifye tan w.	➤ Avan jou egzamen an, planifye konbyen tan w ap pase sou pati A; sa pral ede w vin efikas lè w ap reponn chak kesyon nan jou egzamen an.

SAMPLE QUESTIONS FOR REVISING/EDITING PART A

Sample 1: Select the sentence that needs a revision.

Which sentence in the paragraph should be revised to correct an inappropriate shift in verb tense?

(1) For 14 years, James and his dad have had a tradition of attending Yankees games together, but James is leaving for college next week, and he is agonizing over the fact that attending school in Pennsylvania and working there over the summer meant no more games with his dad. (2) One night, as James is packing his clothes into boxes, he hears a soft knock on his bedroom door. (3) As soon as he opens the door, James sees what is in his dad's hands and feels a rush of joy. (4) His dad is holding a bus ticket for a trip home on a weekend in the spring so that father and son can attend a Yankees game together!

A. Sentence 1
B. Sentence 2
C. Sentence 3
D. Sentence 4

Pou detèmine pi bon revizyon pou paragraf sa a, li Fraz 1 nan paragraf la. Si ou pa bezwen fè yon revizyon, kontinye li chak fraz ak opsyon repons jiskaske ou jwenn repons ki kòrèk la.

Sample 1 Explanation

(A) The sentence is written in the present tense; the verb "meant" shifts incorrectly into past tense. This verb should instead appear in the future tense, "will mean," since the verb refers to how things will be in the future. The corrected sentence will then read, "For 14 years, James and his dad have had a tradition of attending Yankees games together, but James is leaving for college next week, and he is agonizing over the fact that attending school in Pennsylvania and working there over the summer will mean no more games with his dad." The present tense, "means," could also be used, as James appears to be coming to this realization in present time. The use of "means" would make the corrected sentence read as follows: "For 14 years, James and his dad have had a tradition of attending Yankees games together, but James is leaving for college next week, and he is agonizing over the fact that attending school in Pennsylvania and working there over the summer means no more games with his dad."

Sample 2: Identify a sentence with an error.

Which sentence in the paragraph contains an error in its construction and should be revised?

(1) In 2007, visitors to San Francisco, many of whom were attending an international design conference, had booked almost all of the city's hotel rooms. (2) Looking for a way to earn some extra money, three air mattresses were rented out by roommates Joe Gebbia and Brian Chesky. (3) The 27-year-olds put the mattresses in the loft of their apartment and charged $80 a night, for which guests received a bed, breakfast, and internet access. (4) Soon the entrepreneurs realized that they could capitalize on their idea in a much bigger way, and they established Airbnb, a company that offers around 6 million rental listings in more than 100,000 cities worldwide.

E. sentence 1

F. sentence 2

G. sentence 3

H. sentence 4

Pou idantifye fraz la, li tèks la byen li pandan w ap siveye lè a; pa jis pase je w sou tèks la. Erè ka nenpòt kote nan paragraf la.

Sonje ke erè a se pou *estrikti fraz la*, presizeman li ye, sa vle di li gen rapò avèk kòman yo ranje mo yo ak ekspresyon yo nan yon fraz pou montre (reprezante) relasyon ki genyen ant ide yo.

Sample 2 Explanation

(F) In sentence 2, the modifier "Looking for a way to earn some extra money" incorrectly modifies "three air mattresses" when it should modify "roommates Joe Gebbia and Brian Chesky." This error in construction can be corrected by making "roommates Joe Gebbia and Brian Chesky" the subject of the main clause and using the active voice. The corrected sentence will read "Looking for a way to earn some extra money, roommates Joe Gebbia and Brian Chesky rented out three air mattresses."

Sample 3: Improve the writing by combining sentences or revising part of a sentence.

What is the **best** way to combine these sentences to clarify the relationship between ideas?

(1) In 2019, 15-year-old Cori "Coco" Gauff defeated Venus Williams in the first round of Wimbledon.

(2) Wimbledon is the world's most prestigious tennis tournament.

(3) Gauff made history as the youngest player in almost 30 years to win a women's singles match at Wimbledon.

A. Making history at the world's most prestigious tennis tournament in 2019, 15-year-old Cori "Coco" Gauff defeated Venus Williams, in the first round, making Gauff the youngest player in almost 30 years to win a women's singles match at Wimbledon.

B. At the world's most prestigious tennis tournament, Wimbledon, 15-year-old Cori "Coco" Gauff made history in 2019 by defeating Venus Williams in the first round, making the teenager the youngest player in almost 30 years to win a women's singles match.

C. In 2019, 15-year-old Cori "Coco" Gauff made history when she defeated Venus Williams in the first round of Wimbledon, becoming the youngest player in almost 30 years to win a women's singles match at the world's most prestigious tennis tournament.

D. In 2019, history was made at the first round of Wimbledon, the world's most prestigious tennis tournament, when 15-year-old Cori "Coco" Gauff defeated Venus Williams to become the youngest player in almost 30 years to win a women's singles match.

💡 Pou melaje fraz yo, poze tèt ou kesyon

1. Èske gen mo/ide ki repete ke yo ta ka itilize yon sèl fwa?

2. Kòman yo ka konekte diferan ide? Èske yo reprezante yon koz ak yon efè, ide opoze, yon sekans, etc.?

Sample 3 Explanation

(C) This revision clarifies the idea that Gauff made history by becoming the youngest player in decades to win a women's singles match at Wimbledon and that she did so when she beat Venus Williams. The revision also explains that Wimbledon is the "world's most prestigious tennis tournament" in a way that is clear and logical.

Rezime pou revize/edite Pati B

Kesyon ki nan Pati B a evalye kapasite w pou li yon tèks epi pran desizyon ki amelyore kalite tèks la anjeneral. Sijè ki prezante nan tèks sa yo pral gen ladan evènman istorik ak aktyèl; moun, kote ak teknoloji; ak fenomèn ki nan syans biyolojik, syans fizik ak syans sosyal. Chak fraz yo nimewote pou w ka konnen kote yo ye ak pou w ka gade pati espesifk tèks la.

Tèks la ka gen erè tankou

- movèz itilizasyon langaj
- detay sipò ki manke oswa ki pa nesesè
- mo, ekspresyon oswa fraz ki manke oswa ki pa apwopriye
- yon entwodiksyon oswa yon konklizyon ki manke oswa ki pa klè
- òganizsyon ki pa klè oswa ki pa lojik
- lòt erè ki gen rapò ak nòm langaj ak tèks

💡 Konsèy pou revize/edite Pati B

Dabò, li tèks la byen li pandan w ap siveye lè a; pa jis pase je w sou tèks la.	➤ Ou bezwen konprann objektif otè a, lide prensipal ak detay ki sipòte tèks la pou w ka reponn kesyon yo sou kòman ou ka pi byen devlope ak òganize tèks la. Sa mande pou byen li. ➤ Ou ka remake fraz ak paragraf ki sanble pa klè, ki pa lojik, ki pa nesesè, mal òganize oswa ki difisil pou li anjeneral. ➤ Li tèks la avan. Sonje nan ki lòd ou ta dwe li tèks la ak kesyon pou Pati B diferan ak Pati A. Nan Pati A, ou sipoze li *kesyon* an avan. Nan Pati B, ou sipoze li *tèks* la avan.
Apresa, li chak kesyon byen li pandan w ap siveye lè a.	➤ Regade tèks la epi reli fraz oswa paragraf ki enpòtan yo site nan kesyon an. ➤ Ou ka bezwen tou pou gade fraz avan ak fraz apre fraz y ap pale nan yon kesyon. ➤ Konsidere chak opsyon repons, reli tèks la si sa nesesè (si w gen tan). Detèmine si opsyon an reprezante pi bon revizyon an.
Planifye tan w.	➤ Avan jou egzamen an, planifye konbyen tan w ap pase nan Pati B; sa pral ede w vin efikas lè w ap reponn chak kesyon nan jou egzamen an.

Learning to Embrace the Gap Year

(1) The traditional academic plan for college-bound students in the United States is to complete high school in June and begin college courses in August or September, but some experts wonder whether this plan is appropriate for all students. (2) Young adults are still exhausted from attending secondary school. (3) They are sent to college with little to no transition time. (4) They struggle with a lack of direction, have minimal life experience, and are not adequately prepared to succeed. (5) Many students are simply starting college before they are ready.

(6) A gap year is when a student takes a one-year hiatus from schooling for nonacademic activities. (7) This break in the academic track gives young adults a chance to explore possible program options, gain volunteer experience, and achieve personal growth. (8) Through a variety of opportunities, gap year participants can develop new skills and interests. (9) The break can also help prepare students for the challenges of college coursework by giving them additional time to mature. (10) Succeeding at the college level can be challenging at first, but when determined students adjust and employ good study habits, they will thrive.

(11) Earning money can be a tempting choice, and some young adults may find that they no longer desire a college degree after entering the workforce. (12) While gap year critics do have a valid concern, a 2010 Wall Street Journal article cited research that found that "90% of students who took a gap year had returned to college within a year." (13) And the Gap Year Association, a worldwide accredited nonprofit that promotes the benefits of a gap year, maintains that "taking a structured gap year invariably serves to develop the individual into a more focused student with a better sense of purpose and engagement in the world."

(14) The choice to take a gap year may not be for all students, but it could be the best path for some. (15) Students need to know that this is a good choice that will be supported if it is what they want. (16) Taking a gap year could help students become more successful as adults in their community.

1. Which sentence should follow sentence 5 to introduce the main claim of the passage?

   A. Taking a gap year away from formal education to determine their personal aspirations is the answer for these students.

   B. For some students, the benefits of taking a gap year after high school could significantly increase their chances of achieving collegiate success.

   C. When students are academically and emotionally prepared, they are guaranteed to experience greater success in their higher education endeavors.

   D. Students who take the time to mature and gain knowledge outside of the classroom will experience more satisfaction, purpose, and accomplishment in their life.

2. Which revision of sentence 8 uses the most precise language?

  E. Through different experiences and discoveries, gap year participants can develop new skills and interests.

  F. Through a range of opportunities and training, gap year participants can develop new skills and interests.

  G. Through internships, work, travel, or volunteerism, gap year participants can develop new skills and interests.

  H. Through a variety of jobs, programs, and charities, gap year participants can develop new skills and interests.

3. Which sentence should be added before sentence 11 to introduce the ideas in the third paragraph (sentences 11 - 13)?

  A. Some gap year opponents worry that young adults who take a break from academia for activities such as a job may never return.

  B. In addition to helping students become better prepared for college, a gap year could be useful to those with financial constraints.

  C. Students complain that there is not enough time between high school and college to earn money for college.

  D. There is growing concern among some experts that a gap year may be too expensive for many students to even consider.

Sample 1 Explanation

(B) Option B is the best sentence to follow sentence 5 and supports the main claim. This sentence clearly states the claim in that the gap year can lead to success in college for some, but not all, students (as revealed in sentence 14). This idea is developed throughout the passage by explaining what a gap year is and how it benefits students.

Sample 2 Explanation

(G) Option G uses the most precise language and is the correct response. The imprecise reference in sentence 8 to "a variety of opportunities" is replaced with the more specific and precise reference to what these opportunities entail. They may be "internships, work, travel, or volunteerism."

Sample 3 Explanation

(A) Option A is the correct sentence to add before sentence 11. The third paragraph introduces, and then refutes, a counterclaim about gap years in that they may encourage young people to forgo college entirely. This sentence clearly introduces this counterclaim that the paragraph elaborates on and then refutes with evidence.

Rezime konpreyansyon lekti

Seksyon sa a evalye kapasite w pou li ak konprann jiska sis tèks pou ni jan literè ak tèks ki gen enfòmasyon, ki ka gen ladan nenpòt tip tèks ki pi ba a.

Jan tèks ki gen enfòmasyon ka gen ladan
Tèks ki fè ekspoze/ki bay eksplikasyon
tèks ki bay agiman
tèks fonksyonèl sou fòm: • disètasyon pèsonèl   • diskou   • pyès opinyon   • disètasyon sou art oswa literati   • biyografi   • memwa   • jounalis   • istwa istorik, syantifik, teknik oswa ekonomik ki ekri pou yon piblik ki laj

Jan tèks literè yo ka gen ladan
pwezi
istwa avanti
woman istorik
mistè
mit
woman ki baze sou syans
woman ki baze sou reyalite
alegori
pawodi
sati
atik reyèl kreyatif

💡 Konsèy pou konpreyansyon lekti

Li tèks la byen li pandan w ap siveye lè a; pa jis pase je w sou tèks la.	➤ Li tèks la byen li pou asire ou gen yon konpreyansyon ni ide prensipal yo ni detay enpòtan egzat ki baze sou tèks la. ➤ Swiv jan w konprann pandan w ap li; si yon fraz oswa yon paragraf pa klè pou ou, eseye reli l.
Pran nòt.	➤ Jot *brief* notes to identify important details, summarize ideas, etc., while reading the text in its entirety.
Byen li kesyon an.	➤ Li kesyon an byen li pou w ka byen konprann kisa yo mande nan kesyon an. Paegzanp, èske w ap bezwen konsantre sou detay ki nan sèlman yon paragraf oswa nan plizyè paragraf? ➤ Si gen tan, reli pati ki enpòtan nan tèks la.
Eseye jwenn repons lan avan w li opsyon ki gen pou repons yo.	➤ Panse repons lan avan w li chak opsyon. Apresa, li chak opsyon pou repons lan pandan w ap elimine sa ki sanble klèman pa kòrèk yo epi chwazi sa ou panse ki pi bon an. ➤ Baze repons ou yo sèlman sou kontni tèks la (ak imaj oswa graf ki gen rapò kote sa enpòtan). Pa konte sou konesans ou te genyen sou sijè a avan .
Planifye tan w.	➤ Avan jou egzamen an, planifye konbyen tan w ap pase sou chak tèks ak kesyon ki gen rapò avek yo nan seksyon konpreyansyon lekti a; sa pral ede w vin efikas lè w ap reponn chak kesyon nan jou egzamen an.

Snoozing While Soaring

1 Certain types of birds soar for hundreds of miles, over land, over sea—and never stop to rest. That kind of endurance seems impossible to us, since we as people need time to rest and sleep. Researchers set out to learn how birds could fly for such long distances without restorative rest. They found that for some birds, settling in for a good night's rest is not always a necessity.

2 In 2013 Felix Liechti and his research colleagues at the Swiss Ornithological Institute published results of a study about the flight habits of Alpine swifts, small birds that migrate annually between Europe and Africa. Liechti and his team fitted the birds with small electronic tags that recorded the birds' acceleration and their pitch, or angle relative to the ground. The data revealed that the birds remained completely airborne during their time in Africa, a period of over 200 days. Since all animals require sleep, the researchers inferred that the birds slept from time to time on their long journey. However, since the electronic tags recorded only movement such as gliding or flying, and not brain waves, the question of whether birds sleep during flight remained unanswered.

3 Researcher Niels Rattenborg from the Max Planck Institute for Ornithology also delved into this question. In a 2006 article Rattenborg explained that it was theoretically possible that birds could undergo a certain type of sleep while flying. Like mammals, Rattenborg explained, birds experience different types of sleep, including slow-wave sleep (SWS). Rattenborg argued that SWS during flight is plausible because SWS can happen in one hemisphere of the brain at a time, leaving half of the brain essentially awake while the other half sleeps. The eye associated with the "awake" hemisphere can still function, allowing a bird to see where it is going. Rattenborg decided that electroencephalogram (EEG) recordings of birds' brain waves would ultimately be necessary to determine whether a bird can actually sleep in flight.

4 Eventually, Rattenborg and his team were able to create an experiment to prove this theory by studying frigatebirds from the Galápagos Islands. These enormous birds are good subjects for avian-sleep research because they fly far out to sea to hunt fish. However, unlike many seabirds, they cannot land on the water to rest because the physical build of their body—long wings, poorly webbed feet, and minimal feather waterproofing—makes them unable to take off again from the surface of the water. Rattenborg concluded that they must remain in flight for up to two months at a time.

5 In an article from 2016, Rattenborg outlined the team's research methods and conclusions. The team humanely implanted EEGs on the skulls of several frigatebirds. After analyzing the EEG readings of the birds while in flight, the team determined that the frigatebirds slow-wave slept for about ten seconds at a time at points when the birds were gliding upward via warm air currents, typically the safest part of the flight. While in flight the birds slept for only 45 minutes a day, which is just enough rest for the birds to function during these long flights. They later recovered from the stress of going with very little sleep when they rested for approximately twelve hours each day back on land.

6 Using EEG recordings, Niels Rattenborg solved the puzzle of when birds sleep while traveling long distances. His evidence proved that his theory was correct, and the birds proved themselves to be the ultimate multitaskers as they manage sleep and flight at the same time.

1. Read this sentence from paragraph 1.

    That kind of endurance seems impossible to us, since we as people need time to rest and sleep.

    The words "endurance" and "impossible" in the sentence convey

    A. amazement about the physical capability of birds to remain in flight for extended periods of time over long distances.
    B. uncertainty about the conditions that allow birds to stay in flight for extended periods of time without rest.
    C. excitement about the opportunity to share research into how birds fly for extended periods of time.
    D. skepticism about discovering how birds can fly for extended periods of time with little or no rest.

2. Which sentence from the passage **best** supports the idea that birds seem to be capable of making prolonged flights without sleeping?

    E. "The data revealed that the birds remained completely airborne during their time in Africa, a period of over 200 days." (paragraph 2)
    F. "In a 2006 article Rattenborg explained that it was theoretically possible that birds could undergo a certain type of sleep while flying." (paragraph 3)
    G. "Rattenborg decided that electroencephalogram (EEG) recordings of birds' brain waves would ultimately be necessary to determine whether a bird can actually sleep in flight." (paragraph 3)
    H. "While in flight the birds slept for only 45 minutes a day, which is just enough rest for the birds to function during these long flights." (paragraph 5)

3. Which statement **best** summarizes the conclusions of the studies presented in the passage?

    A. Scientists used monitoring devices to determine that the seconds when migratory birds glide upward in warm air currents are safest for slow-wave sleep.

    B. Using monitoring devices, scientists confirmed that migratory birds sleep for an extremely short amount of time while in flight and recuperate by sleeping for an extended period of time after they land.

    C. Scientists used monitoring devices to determine that migratory birds require significantly less sleep than many other animals and to show that the birds use only one hemisphere of their brain while flying.

    D. Using monitoring devices, scientists confirmed that some types of migratory birds rely on slow-wave sleep cycles in order to stay in flight for extended periods of time.

4. The overall organizational structure of the passage allows the author to

    E. contrast the significance of research findings related to small migratory birds with those related to large migratory birds.

    F. compare the in-flight sleep patterns of the various types of birds examined in several studies.

    G. emphasize the role of technology in studying sleep patterns of birds in flight.

    H. illustrate how researchers acquired a better understanding of the sleep patterns of birds in flight.

Sample 1 Explanation

(A) Option A is the correct response because it explains that the words "endurance" and "impossible" convey amazement at the birds' ability to remain in flight for so long without resting—as opposed to human beings, who "need time to rest and sleep" (paragraph 1). Specifically, the word "impossible" implies a sense of wonder or disbelief at the birds' endurance, which allows them to continue flying for hundreds of miles without stopping. The words "endurance" and "impossible" support the idea expressed later in the passage that these birds are the "ultimate multitaskers" (paragraph 6).

Sample 2 Explanation

(E) Option E best supports the idea that birds seem to be capable of making prolonged flights without sleeping, because it expresses the idea that the birds "remained completely airborne" during "a period of over 200 days" (paragraph 2). This information is significantly more precise than the information in the other answer options. Therefore, option E provides more compelling evidence to support the idea in the question than the other answer options provide.

Sample 3 Explanation

(D) Option D best summarizes the conclusions of the studies presented in the passage. While all the options include some important details about the study of migratory birds, option D accurately states the key conclusion of these studies, which is that these birds "rely on slow-wave sleep cycles in order to stay in flight for extended periods of time" (paragraph 5). Option D's emphasis on the key conclusion rather than on key details makes it the correct response.

Sample 4 Explanation

(H) Option H best explains the effect of the overall structure of the passage. The passage presents an unresolved question in paragraph 2, while paragraph 3 explains one researcher's attempt at seeking an answer to the question. Paragraph 4 describes the bird the researchers chose due to its physical makeup and feeding habits. Paragraphs 5 and 6 illustrate the details and outcome of the study, revealing the researchers' conclusion. Therefore, the overall structure of the passage illustrates how researchers improved their understanding of the sleep patterns of birds in flight.

1.5 Kòman pou prepare pou seksyon Matematik la

Matematik la gen pwoblèm ekri ak kesyon kalkil swa nan fòma chwa miltip oswa fòma griy. Gen senk kesyon pou make repons sou griy la ak 52 kesyon chwa miltip. Kesyon Matematik yo mande aplikasyon konesans nan matematik, tèm matematik ak konsèp jeneral ki nan **Nòm aprantisaj Matematik ak Konpozisyon Anglè (English Language Arts, ELA Eta Nouyòk pou Matematik**. Kesyon matematik nan SHSAT yo pral egzije w aplike konesans matematik ou abitye pou pwoblèm ki konplèks ki gen plizyè etap.

Paj sa yo dekri divès konsèy pou ede w prepare pou pran seksyon matematik ki nan egzamen SHSAT an. Genyen Aktivite sa yo ladan:

- konsèy pou amelyore kapasite matematik ou nan sijè matematik kote ou bezwen plis pratik
- avèk konsèy pou abitye w avèk sa w ap jwenn ki espesifik nan egzamen SHSAT a epi ki ka diferan ak lòt egzamen matematik ou pran
- konsèy pou reponn kesyon matematik ak chwa miltip
- konsèy pou reponn kesyon matematik nan griy yo

Sonje: Ou ka jwenn repons ak eksplikasyon pou tout modèl kesyon matematik yo nan paj 23–25.

Kesyon matematik sou fòm egzamen Klas 8yèm ane yo baze sou nòm aprantisaj Eta Nouyòk ki nan klas 7yèm ane. Kesyon matematik sou fòm egzamen Klas 9yèm yo baze sou materyèl jiska Klas 8yèm.

💡 Konsèy pou amelyore kapasite w nan Matematik

Gade resous pou Matematik yo.	➤ Itilize manyèl Matematik ou a, chèche lòt resous matematik nan lekòl oswa nan bibliyotèk bò lakay ou a oswa mande pwofesè w la pou ba w resous pou w itillize.
Pratike rezoud kesyon Matematik chak jou. Rezoud ni kesyon debaz yo ni kesyon difisil yo.	➤ Kesyon debaz yo ranfòse kapasite Matematik tankou senpliye fraksyon ak aplike konsèp estatistik.
	➤ Kesyon ki pi difisil yo egzije pou rezoud ekwasyon konplèks ki gen plizyè etap Yo ka egzije tou pou itilize divès tip kapasite matematik. Paegzanp, ou ka itilize fraksyon, rezoud ekwasyon ak aplike konesans estatistik ou pou reponn yon kesyon.
	➤ Si w gen dout sou kòman pou reponn yon kesyon, sote l epi retounen sou li apre pou w ka reponn lòt kesyon yo. Ou ka gen yon pi bon ide sou kòman pou rezoud yon pwoblèm apre ou fin reponn lòt kesyon yo.

💡 Bagay pou sonje pandan w ap prepare pou seksyon Matematik la

Sèvi avèk tèm, senbòl, ak fòmil matematik yo itilize nan klas jiskaske ou konfòtab pou w itilize yo.

➤ Ou dwe konnen siyifikasyon tèm matematik ki apwopriye pou nivo klas ou a, tankou "paralèl" ak "pèpandikilè," ansanm ak senbòl ki reprezante tèm sa yo.

➤ Ou ka jwenn tèm, senbòl, ak fòmil matematik, tankou sa ki pou perimèt ak sipèfisi diferan figi, nan materyèl yo pou klas Matematik ou yo ak sou entènèt nan klas 7yèm ak 8yèm ane New York State Next Generation English Language Arts and Mathematics Learning Standards.

➤ Yo P AP bay definisyon ak eksplikasyon pou tèm, senbòl ak fòmil yo nan tiliv egzamen an. Pratike itilize yo pou rezoud pwoblèm jiskaske ou memorize yo epi ou ka itilize yo avèk fasilite.

Pa itilize kalkilatris lè w ap rezoud pwoblèm yo.

➤ Yo **pa** pèmèt itilizasyon kalkilatris pandan w ap pran egzamen SHSAT a.

Planifye tan w.

➤ Avan jou egzamen an, planifye konbyen tan w ap pase nan seksyon Matematik la; sa pral ede w vin efikas lè w ap reponn chak kesyon nan jou egzamen an.

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💡 Konsèy pou rezoud pwoblèm matematik

Byen li chak kesyon.

➤ Byen li pou w ka rezoud pwoblèm konplèks yo avèk presizyon lè w itilize *tout* enfòmasyon enpòtan ki nan kesyon an.

➤ Make kesyon an, menm jan ak nan modèl kesyon 1 an pou asire ou mete tout enfòmasyon yo lè w ap rezoud pwoblèm lan.

➤ Chanje mo apati kesyon an an senbòl matematik (jan yo fè l nan modèl 1 ak 2 a).

Sample 1

$+$ $x, x+1$ $= -15$

The (sum) of (two consecutive integers) (is −15). If 1 is added to the smaller integer and 2 is subtracted from the larger integer, what is the **product** of the two resulting integers?

> 💡 Chanje mo ki nan kesyon an an senbòl matematik.

Sample 2

J $2K$ $J-5$

(Jenny) starts a game with (twice as many marbles as Keiko) (Jenny gives Keiko 5 marbles) but she still has 10 more than Keiko. How many marbles did Jenny have to start with?

A. 25

B. 30

C. 35

D. 40

> 💡 Make kesyon an pou prepare w pou rezoud pwoblèm lan.

Desine figi oswa dyagram pou kesyon ki pa genyen yo.	➤ Desine figi oswa dyagram, tankou nan egzanp ki pi ba a, pou ede w konprann sa ki dekri nan kesyon an.

Sample 3

$$L = 3x$$

$$W = 2x \qquad\qquad W = 2x$$

$$L = 3x$$
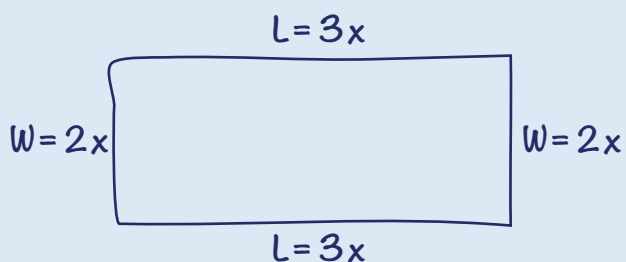
The perimeter of a rectangle is 510 centimeters. The ratio of the length to the width is 3:2. What are the dimensions of this rectangle?

E. 150 cm by 105 cm

F. 153 cm by 102 cm

G. 158 cm by 97 cm

H. 165 cm by 90 cm

💡 Idantifye figi ak dyagram yo.

Fè yon etap alafwa.	➤ Kèk kesyon mande w pou melanje yon seri etap. Ekri yon etap alafwa, tankou nan egzanp ki pi ba a, pou rezoud pwoblèm ki gen plizyè etap.

Sample 4

1 dollar = 7 lorgs
1 dollar = 0.5 dalt

Malik has 140 lorgs and 16 dalts. If he exchanges the lorgs and dalts for dollars according to the rates above, how many dollars will he receive?

A. $28
B. $52
C. $182
D. $282

$$\frac{140}{x} = \frac{7}{1}$$

$$7x = 140$$

$$x = \$20$$

Etap 1: Konvèti lorgs an dola.

$$\frac{16}{x} = \frac{0.5}{1}$$

$$0.5x = 16$$

$$x = \$32$$

Etap 2: Konvèti dalts an dola.

$$20 + 32 = \$52$$

Etap 3: Fè total konvèsyon lorgs and dalts ou yo ansanm.

Ou ta dwe rezoud pifò kesyon ak chwa miltip apati repons lan.	➤ Rezoud pwoblèm lan *avan* w gade opsyon pou repons lan pi efikas pase gade opsyon repons lan dabò*apresa* eseye estime presizyon chak pou rive nan repons kòrèk la.
Li pi bon pou rezoud pwoblèm yo sou papye (olye jis nan tèt ou) epi pou konsantre sou *rezoud* rather than *chwazi*.	➤ Lè w jwenn yon repons, gade chwa yo mete yo. Si repons ou a pami chwa yo, epi ou kwè se repons ki kòrèk la, make l. Si li pa la, reli kesyon an epi rezoud li ankò. ➤ Si repons ou an pa nan opsyon repons yo, konsidere lòt mwayen pou ekri repons ou an. Pa egzanp, $\frac{5}{9}(3 + x)$ se ekivalan tout sa yo: $\frac{5(3 + x)}{9}$ ak $\frac{5}{3} + \frac{5}{9}x$ ak $\frac{5}{3} + \frac{5x}{9}$. ➤ Si repons ou an toujou pa nan opsyon repons yo, devine ak/oswa regade pi ta si w gen tan.

Sample 1 Explanation

If x is the smaller consecutive integer, then $x +1$ is the larger consecutive integer. Use their sum −15 to find x:

$x + (x + 1) = -15$
$2x + 1 = -15$
$2x = -16$
$x = -8$

The two consecutive integers are −8 and −7.
One is added to the smaller integer: −8 + 1 = −7.
Two is subtracted from the larger integer: −7 – 2 = −9.
Find the product: −7 × −9 = 63.

Sample 2 Explanation

(D) Set up some equations.

Jenny (J) has twice as many marbles as Keiko (K): $J = 2K$
Jenny gives Keiko 5 marbles, so now they each have: $J – 5$ and $K + 5$ marbles.
Jenny still has 10 more than Keiko:
$J – 5 = (K + 5) + 10$

To find how many marbles Jenny had to start with, solve $J = 2K$ for K and substitute that into the second equation:

In equation $J = 2K$, solve for K: $K = \dfrac{J}{2}$.
Substitute $\dfrac{J}{2}$ in for K.

$J – 5 = (K + 5) + 10$

$J – 5 = \left(\dfrac{J}{2} + 5\right) + 10$

$J – 5 = \dfrac{J}{2} + 15$

$\dfrac{J}{2} = 20$

$J = 40$ marbles

Sample 3 Explanation

(F) Let $2x$ = the width and $3x$ = the length.
Draw the rectangle to help visualize.

Since $2w + 2l = P$, we get

$2(2x) + 2(3x) = 510$
$4x + 6x = 510$
$10x = 510$
$x = 51$
$2x = 102$cm and $3x = 153$ cm

Sample 4 Explanation

(B) Use proportions to make the conversions:

Lorgs to dollars:

$$\frac{140}{x} = \frac{7}{1}$$

$7x = 140$

$x = \$20$

Dalts to dollars:

$$\frac{16}{x} = \frac{0.5}{1}$$

$0.5x = 16$

$x = \$32$

Total dollars = 20 + 32 = \$52

Kòman pou konplete kesyon matematik an griy

Seksyon Matematik la gen ladan senk kesyon an griy kote elèv yo dwe rezoud pwoblèm kalkil ak bay repons nimerik ki kòrèk la olye pou yo chwazi repons lan nan opsyon chwa miltip.

➤ Griy pou chak kesyon fèt ak senk kolòn. Lè w make repons ou an nan griy la, kòmanse agoch.

➤ Pou chak kesyon an griy, ekri repons ou an nan kazye ki anlè griy la.

➤ Mete sèlman yon nonb oswa senbòl desimal nan chak kazye. Itilize senbòl "." si repons ou an gen ladan yon vigil.

➤ Nwasi boul ki anba kazye ki koresponn ak nonb oswa senbòl ou te ekri a.

EXAMPLE A
(Answer: 5)

EXAMPLE B
(Answer: 3.2)

Write the answer in these boxes.

Fill in the circles that correspond to the answer written in the boxes.

Negative sign

Decimal point

➤ Premye kolòn agoch griy la se SÈLMAN pou mete yon siy negatif, menm jan ak nan **Egzanp C**. Si repons ou an pozitif, kite premye kolòn lan vid epi kòmanse make repons ou an nan dezyèm kolòn lan.

EXAMPLE C
(Answer: −1.5)

Negative sign →

← Decimal point

➤ Lè repons ou an gen ladan yon desimal, asire w nwasi boul ki koresponn ak tout pati repons ou an. Paegzanp, si repons ou an se 0.78, nwasi boul ki anba 0 a, ".", 7, ak 8, tankou nan **Egzanp D**. Sonje y ap aksepte yon repons ki gen .78 kòm repons ki kòrèk, tankou nan **Egzanp E**.

EXAMPLE D
(Answer: 0.78)

EXAMPLE E
(Answer: .78)

Egzanp D ak E montre fason ki akseptab pou make an griy menm repons lan.

➤ Pa kite yon kazye vid nan mitan yon repons. Si gen yon vid nan mitan repons ou an, y ap make li pa kòrèk. Paegzanp, si repons ou an se 308, **Egzanp F** la se fason ki akseptab pou make repons ou an nan griy la. Nan **Egzanp G**, gen yon espas ant 3 ak 8 olye yon 0—se pa yon fason ki akseptab pou make repons ou an nan griy la epi y ap make l kòm repons ki pa kòrèk.

EXAMPLE F
(Answer: 308)

EXAMPLE G
(Answer: 38)

➤ Pa nwasi yon boul ki anba yon kazye yo pa itilize, tankou nan **Egzanp H** la. Repons yo make nan egzanp H la, y ap korije l tankou se 3,080 paske boul ki nan dènye kolòn lan nwasi menmsi repons yo te panse make a se 308.

EXAMPLE H
(Answer: 3080)

Remak enpòtan sou Griy (Grid-Ins)

➤ Pou yo bay repons ou an nòt, ou dwe nwasi boul ki nan griy la.

➤ Si w ekri yon repons nan kazye yo epi ou pa nwasi boul ki nan griy la, y ap make repons ou an pa kòrèk.

➤ Si repons ki ekri nan kazye yo pa koresponn ak jan ou te nwasi boul yo, nòt ou a ap baze sou fason ou te ranpli boul yo, tankou nan egzanp H la.

➤ Si gen plis pase yon boul ki nwasi nan yon kolòn, y ap make repons ou an pa kòrèk.

➤ Yon repons nimerik ki kòrèk, y ap make l kòrèk, menm si pa aksidan ou kòmanse make l nan kolòn ki pa kòrèk la.

➤ Si pa aksidan ou ajoute yon vigil (san lòt valè oswa zewo) apre yon nonb antye, y ap korije repons ou an tankou se te nonb antye sa a. Paegzanp, si repons ou an se 5, tankou nan egzanp A a, yon repons ou nwasi tankou 5 oswa tankou 5.0, y ap konsidere l tankou yon repons 5 lè y ap korije l.

2.0 Prepare pou jou egzamen an

2.1 Kisa pou w pote nan egzamen an

Nan sesyon egzamen an ou DWE pote bagay sa yo:

- tikè pou pran egzamen SHSAT avèk siyati w ak siyati paran/responsab ou

- Kreyon Nimewo 2 egize (elèv pa kapab itilize plim)

- gòm

- Teknoloji sipò (si yo endike sa nan IEP ak nan Tikè pou Egzamen an)

Ou KAPAB, men pa oblije pote:

- Adwaz panche

- Grab kreyon

- Inite FM

- Highlighters

- yon mont ki pa sonnen epi ki PA yon kalkilatris

- yon ti snack ki pa fè bri ki vlope (Elèv ka pran snack yo avan yo kòmanse bay egzamen an; yo PA ka manje snack la pandan y ap pran egzamen an.)

- dlo (nan yon veso anplastik ki pa fè bri si l chavire)

2.2 Kisa pou PA pote

Yo pa otorize

- ✗ kamera

- ✗ kalkilatris

- ✗ smart watches

- ✗ MP3 Player/iPod

- ✗ tablet/iPad, ebook reader

- ✗ ear buds/AirPods

- ✗ materyèl ekri ki soti deyò

- ✗ soda, ji, oswa nenpòt lòt bwason eksepte dlo; dlo se sèl bwason yo pèmèt nan lokal egzamen an

Mesaj sou selilè

Yo pèmèt selilè nan lokal egzamen an, men:

1. yo dwe etenn

2. ou pa ka genyen yo avèk ou pandan egzamen an—sa vle di yo pa ka nan pòch ou, nan men w oswa sou biwo w

Lokal egzamen an ap eksplike w sa pou fè avèk selilè a avan egzamen an kòmanse. Y ap mande w pou fèmen telefòn, kamera ak lòt aparèy elektwonik epi kenbe yo yon kote dapre règleman lokal kote y ap bay egzamen an.

Y ap bay bagay sa yo

- tiliv egzamen an

- fèy repons

- papye bouyon ki atache avèk tiliv la epi yo ka itilize papye bouyon an pou pran not oswa pou rezoud kalkil matematik, ke siveyan an ap ramase nan fen egzamen an.

- **SE SÈL ELÈV ELL** k ap resevwa yon glosè matamatik bileng nan youn nan nèf lang DOE yo: arab, bangla-bengali, chinwa, fransè, kreyòl ayisyen, koreyen, ris, panyòl ak oudou.

2.3   Sa pou atann nan jou egzamen an

- Asire w rive nan lokal egzamen an nan lè ki sou Tikè Egzamen SHSAT w la. Tanpri sonje sa a se lè pou rive a, se pa lè egzamen an ap kòmanse. Egzamen an ap kòmanse pi vit posib apre lè ki sou tikè w la. Nan kèk ka, egzamen an ka kòmanse 1èdtan oswa plis apre lè rive ki sou tikè egzamen an. Lokal egzamen an ka ba w lè apeprè egzamen an ap fini ak lè y ap ranvwaye elèv yo

- Avan egzamen an kòmanse, estaf nan lokal la pral fè yon foto oswa videyo tout elèv yo nan chak sal egzamen yo. Yo pral itilize imaj sa yo pou kesyon sekirite egzamen yo sèlman.

- Tout elèv k ap pran egzamen SHSAT a dwe rete nan sal egzamen an pou tout tan egzamen an ap dire a (180 minit), sof nan lè poz pou itilize twalèt.

- Dèke lè egzamen an (180 minit) fini, elèv ki gen akomodasyon pou lè anplis yo gen dwa ale si yo fini travay sou egzamen an. Elèv ki deside ale apre 180 minit lan dwe siyen pou di yo te konprann yo abandone rès tan ki disponib pou egzamen SHSAT a. Elèv ki gen akomodasyon sa a ap gen yon pòz lè 180 minit lan fini, epi apre, lè 90 minit pase.

2.4   Fason pou ranpli fèy repons lan

Avan w pran egzamen an, ou pral ranpli enfòmasyon enpòtan nan devan fèy repons ou a. Dabò, y ap mande w pou li ak siyen yon deklarasyon sou fèy repons ou an ki di ou santi w byen ase pou pran egzamen an, ou abite nan Vil Nouyòk epi ou w ap pran egzamen pou nivo klas kòrèk la.

- Si ou pa santi w byen, ou dwe enfòme siveyan egzamen an imedyatman; ou pa dwe kòmanse pran egzamen an, ni siyen deklarasyon an. Depi w fin chire so sekirite a epi kòmanse egzamen an, ou pa ka mande pou repran l nan yon lòt dat akoz ou te malad.

- Asire w ap pran egzamen an pou nivo klas kòrèk la.

Lè yo mande w pou kòmanse egzamen an, nwasi ti boul ki kòrèk yo pou make lan. Fè sèten bagay ou make yo fonse anpil. Atansyon pou w pa fè rati nan fèy repons ou a. Si w chanje yon repons, byen efase premye repons ou te mete a. Gen sèlman yon repons kòrèk pou chak kesyon. Si sou fèy repons la ou nwasi plis pase yon repons pou yon kesyon, y ap make kesyon sa a kòm yon repons ki pa kòrèk.

SAMPLE ANSWER MARKS				
Ⓐ	Ⓑ	Ⓒ	●	**RIGHT**
Ⓧ	Ⓑ	Ⓒ	Ⓓ	WRONG
Ⓐ	Ⓧ	Ⓒ	Ⓓ	WRONG
Ⓐ	Ⓑ	◐	Ⓓ	WRONG
Ⓐ	Ⓑ	●	●	WRONG

Ou ka ekri sou tiliv egzamen an oswa sou papye bouyon yo bay la pou travay sou ELA oswa sou kesyon matematik yo, men ou dwe re-ekri repons ou yo sou fèy repons ou a pou yo ka konsidere yo. Li pa p posib pou retounen al korije repons ki sou fèy repons lan apre lè a fin rive. Yo p ap konsidere enfòmasyon ou ekri nan ti liv egzamen an oswa sou papye bwouyon an.

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2.5 Move konduit elèv

Sekirite egzamen an enpòtan anpil pou egzamen SHSAT. Pou sa, nou ranfòse règ sa yo avèk anpil rigè pou aisre tout elèv fè yon eksperyans egzamen egal.

- Pandan egzamen an ou pap kapab kominike ak lòt elèv yo nan nenpòt ki fason an. Sa gen ladan bagay sa yo ak lòt ankò:
  - pale, ekri ak pase ti nòt
  - pataje tiliv egzamen oswa fè repons
  - gade repons lòt elèv
  - anrejistre kesyon egzamen yo
  - gen yon selilè, kamera oswa yon lòt aparèy elektwonik (mensi li pa limen)

- Lè egzamen an fini, y ap di w pou sispann ekri epi depoze kreyon w, epi y ap ba ou eksplikasyon sou materyèl egzamen w yo. Dèke siveyan an di w pou depoze kreyon w, ou pa ka kontinye ekri sou materyèl egzamen w yo, tankou fè bagay sa yo ak lòt ankò:
  - nwasi tiboul
  - ansèkle tiboul
  - efase repons

- Ou pa gen dwa pataje kesyon ak repons egzamen yo avèk okenn moun ki andeyò lokal y ap bay egzamen an.

Si yo kenbe elèv ap fè nenpòt nan bagay sa yo, y ap anile egzamen.

- Yo p ap pèmèt elèv klas 8yèm ane pou pran egzamen an ankò avan pwochen ane lekòl la.

- Elèv ki nan klas 9yèm ane kounye a p ap gen opòtinite pou pran egzamen an apre klas 9yèm ane a.

Nenpòt elèv ki refize depoze oswa remèt yon aparèy ki entèdi p ap gen dwa pran egzamen an. Si yon elèv posede yon bagay ki entèdi nenpòt lè pandan y ap bay egzamen an, menmsi aparèy la te fèmen, ap lakoz yo anile egzamen. Yo pa p pèmèt elèv repran egzamen an yon lòt jou.

3.0 Kisa k ap pase lè m fin pran egzamen SHSAT a?

3.1 Revandikasyon pou iregilarite nan egzamen

NYCDOE fè anpil efò pou nou asire nou ke nou bay egzamen GSHSAT a nan yon fason ki jis ak ki konsistan pou tout elèv yo. Sepandan, si w panse gen pwoblèm oswa iregilarite nan egzamen an pandan nenpòt pati nan SHSAT a, ou ta dwe mete siveyan an okouran tousuit. Gen dwa se liv egzamen an ki pa byen enprime, bri ki deranje oswa move konpòtman yon elèv. Siveyan an ap eseye korije sitiyasyon an epi l ap fè w ekri yon deklarasyon sou sa ki pase a nan fen egzamen an.

Oumenm ak paran/responsab ou dwe rapòte tout pwoblèm onivo siveyans oswa iregilarite ou sispèk ki gen nan egzamen an, nan youn nan fason sa yo:

1) Voye yon demand elektwonik nan **HSEnrollment@schools.nyc.gov**, or

2) Voye yon lèt sètifye pa lapòs avèk prèv yo delivre l nan:

<div align="center">

Office of Student Enrollment
52 Chambers Street, Room 415
New York, NY 10007

</div>

Tout demand sa yo dwe fèt pa pi ta pase **yon semèn** apre dat yo fin bay egzamen an.

Pou tout revandikasyon, tanpri mete non paran/responsab ak elèv la, ansanm ak nimewo telefòn ak/oswa enfòmasyon sou imèl pou yo kontakte w. Yo p ap konsidere okenn revandikasyon pou iregilarite nan egzamen ki poste pi ta pase yon semèn apre dat ou te pran egzamen an. Y ap reponn reklamasyon yo dapre chak ka anpatikilye.

Lòt Solisyon anplis: Si ou pa satisfè avèk repons nou an, ou ka konteste desizyon NYCDOE a devan Komisè Depatman Edikasyon Eta Nouyòk (New York State Education Department, NYSED) jan yo di sa nan Lwa 310 la. Aprann jan pou fè yon kontestasyon sou sitwèb Komisyonè a nan **counsel.nysed.gov/appeals**.

The New York City Department of Education

2024 Specialized High Schools Admissions Test

GENERAL DIRECTIONS

Student Name: _____

Identifying Information

Turn to Side 1 of the answer sheet.

Notify the proctor immediately if you are ill or should not be taking this test. Do not sign the statement or begin the test. Return your answer sheet to the proctor.

Line 1: Read the statement and sign your name in the space following the word "signature." Do not print your name.

Line 2: Print today's date, using the numbers of the month, the day, and the year. For example, the date September 21, 2024, would be 9-21-24.

Line 3: Print your birth date, using the numbers of the month, the day, and the year. For example, a birth date of March 1, 2009, would be 3-1-09.

Grid 4: Print the letters of your first name, or as many as will fit, in the boxes. If you have a middle initial, print it in the box labeled "MI." Then print the letters of your last name, or as much as will fit, in the boxes provided. Below each box, fill in the circle that contains the same letter as the box. If there is a space or a hyphen in your name, fill in the circle under the appropriate blank or hyphen.

Make dark marks that completely fill the circles. If you change a mark, be sure to erase the first mark completely.

Grid 5:

1. Print the name of the school where you are now enrolled in the space at the top of the grid.

2. In the boxes marked "SCHOOL CODE," print the six-digit code that identifies your school. Below each box, fill in the circle that contains the same letter or number as the box. (You can find your school code on your Test Ticket. If it is not there, tell the proctor, and the proctor will get the school code for you.)

3. If you attend a private or parochial school, fill in the circle marked "P."

Grid 6: Complete the grid with your date of birth. Print the first three letters of the month in the first box, the number of the day in the next box, and the year in the last box. Then fill in the corresponding circles.

Grid 7: Print your student ID number in Grid 7. You can find your student ID number on your Test Ticket. In the boxes, print your nine-digit student ID number. Below each box, fill in the circle containing the same number as in the box.

Grid 8: In most cases, Grid 8 is already filled in for you. If it is not, copy the letter and numbers shown in the upper-right corner of your test booklet into the boxes. Below each box, fill in the circle containing the same letter or number as the box.

Now review Side 1 to make sure you have completed all lines and grids correctly. Review each column to see that the filled-in circles correspond to the letters or numbers in the boxes above them.
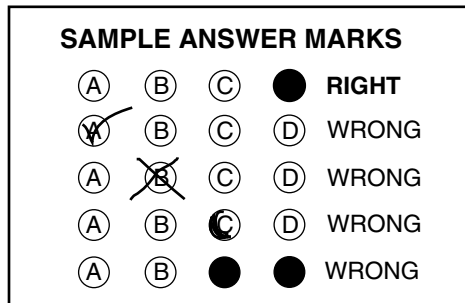
Turn your answer sheet to Side 2 and flip this booklet over to continue with General Directions.

General Directions, continued

Print your test booklet letter and numbers, and your name, first name **first**, in the spaces provided at the top of Side 2 of the answer sheet.

Marking Your Answers

- Mark each of your answers on the answer sheet in the row of circles matching the question number printed in the test booklet.
- Use only a Number 2 pencil.
- If you change an answer, be sure to erase it completely.
- Be careful to avoid making any stray pencil marks on your answer sheet. **Do not make any marks on your answer sheet other than filling in your answer choices.**
- Each question has only one correct answer. If you mark more than one circle in any answer row, that question will be scored as incorrect.

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┌─────────────────────────────────────┐
│      SAMPLE ANSWER MARKS             │
│   (A)   (B)   (C)   ●     RIGHT      │
│   (A)   (B)   (C)   (D)   WRONG      │
│   (A)   (B)   (C)   (D)   WRONG      │
│   (A)   (B)   (C)   (D)   WRONG      │
│   (A)   (B)   ●     ●     WRONG      │
└─────────────────────────────────────┘
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- You can use your test booklet or the provided scrap paper to take notes or solve questions; however, your answers must be recorded on the answer sheet in order to be counted.
- **You will not be able to mark your answers on the answer sheet after time is up, and answers left in the test booklet will not be scored.**

Planning Your Time

- You have 180 minutes to complete the entire test. **How you divide the time between the English Language Arts and Mathematics sections is up to you.**
- If you begin with the English Language Arts section, you may go on to the Mathematics section as soon as you are ready. Likewise, if you begin with the Mathematics section, you may go on to the English Language Arts section as soon as you are ready.
- Be sure to read the directions for each section carefully.
- Each question has only one correct answer. Choose the best answer for each question.
- When you finish a question, go on to the next, until you have completed the last question or run out of time.
- Your score is determined by the number of questions you answer correctly. **Answer every question, even if you may not be certain which answer is correct.**
- Don't spend too much time on a difficult question. Come back to it later if you have time.
- If you complete the test before the test time (180 minutes) is over, you may go back to review questions in either section.
- Students must stay for the entire test session (180 minutes).

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO

P Pearson   **A**

PART 1 — ENGLISH LANGUAGE ARTS

57 QUESTIONS

REVISING/EDITING

QUESTIONS 1-9 (PART A AND PART B)

REVISING/EDITING PART A

DIRECTIONS: Read and answer the following questions. You will be asked to recognize and correct errors so that the sentences or short paragraphs follow the conventions of standard written English. You may write in your test booklet as needed to take notes. You should reread relevant parts of the sentences or paragraphs, while being mindful of time, before marking the **best** answer for each question.

1. Read this sentence.

> <u>The engineers tried some other things</u> in the hope of finding a more effective insulation for the compartment.

What is the **most** precise revision for the words ***The engineers tried some other things***?

A. The engineers did experiments with several new materials
B. The engineers tested foam and fiberglass
C. The engineers examined two new materials
D. The engineers worked with foam and fiberglass

2. Which sentence contains an error in its construction and should be revised?

> (1) Walking dogs, cleaning kennels, hand-feeding newborn kittens, and supporting the pet-adoption process, the animal shelter is looking for volunteers to help with a variety of tasks. (2) Working at the animal shelter is a great way for young people, especially those who aspire to care for and protect animals, to gain valuable work experience. (3) In addition to hands-on training with animal care, volunteers will learn important job skills, such as punctuality, responsibility, and personal initiative. (4) Caring for animals can also help volunteers develop empathy, which is the awareness and understanding of the feelings of others.

E. sentence 1
F. sentence 2
G. sentence 3
H. sentence 4

3. Which edit should be made to correct the sentence?

> The Colosseum in <u>Rome,</u> <u>Italy</u> which is considered one of the "new" Seven Wonders of the <u>World,</u> is the largest amphitheater ever <u>built</u> and once could hold up to 50,000 spectators.

    A. Delete the comma after ***Rome***.

    B. Insert a comma after ***Italy***.

    C. Delete the comma after ***World***.

    D. Insert a comma after ***built***.

4. Which pair of revisions need to be made in this paragraph?

> (1) Both Italian gelato and American ice cream are delightful treats to have on a hot summer day, but many people <u>wonder:</u> what <u>is</u> the difference between the two? (2) To start <u>with,</u> the butterfat content is much higher in ice cream than <u>it is</u> in gelato, making the Italian treat a wiser decision for people looking to make healthier choices. (3) Additionally, the mixing <u>process,</u> which adds less air to the frozen treat, <u>makes</u> gelato denser than ice cream. (4) Finally, gelato is served 10 to 15 degrees warmer than ice cream, which enhances the texture and flavor of the <u>gelato,</u> and <u>allow</u> it to melt more quickly.

    E. Sentence 1: Delete the colon after ***wonder*** AND change ***is*** to **are**.

    F. Sentence 2: Delete the comma after ***with*** AND change ***it is*** to **they are**.

    G. Sentence 3: Delete the comma after ***process*** AND change ***makes*** to **make**.

    H. Sentence 4: Delete the comma after ***gelato*** AND change ***allow*** to **allows**.

DIRECTIONS: Read the text below and answer the questions following it. You will be asked to improve the writing quality of the text and to correct errors so that the text follows the conventions of standard written English. You should reread relevant parts of the text, while being mindful of time, before marking the **best** answer for each question.

The Free College Debate

(1) A college degree has become an essential tool in an increasingly competitive job market. (2) Yet the price of higher education, at both private and public universities, continues to rise. (3) Helping students cover the cost of attending college is an important issue.

(4) Many people agree that a college education should be a financially realistic option for those who aspire to obtain a degree. (5) For example, in 2017, the New York State legislature passed a bill creating a program to cover the tuition costs for nearly one million students. (6) The state of Tennessee also has a program that offers all students scholarships and mentoring services if they attend one of the state's community colleges. (7) Proponents generally believe that these programs are a step in the right direction for making college affordable for students who would have had to take out loans or who would have decided not to pursue higher education at all.

(8) On the other hand, some people oppose bills like the ones in New York and Tennessee because they believe "free" college programs are unsustainable. (9) In order to implement these types of programs, a state pays the college on behalf of the students using funds from the state's budget, which primarily comes from state taxes. (10) As more students choose to attend college, more funds will be needed to cover the costs. (11) Additionally, many students do not finish college within four years because they switch majors or because they have to work. (12) Critics believe that these circumstances will inevitably lead to an increase in taxes, a decline in the quality of the education offered by the schools, or both. (13) They think narrower college-affordability efforts that target the students who need the most support, such as first-generation college students, may be more effective and viable solutions.

(14) Faculty and students at higher-education institutions can work to keep costs down. (15) In light of increased access to computers, mobile devices, and the Internet, there are more opportunities for students to take courses online, thus reducing the need for and cost of maintaining physical classrooms. (16) Additionally, colleges should account for experience by allowing students to demonstrate their knowledge in order to avoid having to pay to sit through classes on subjects they have already mastered. (17) Similarly, college-bound high school students need to be prepared for college-level work so that they do not have to spend money on remedial classes.

(18) The solutions to the problems associated with rising college costs are not simple. (19) Passing legislation that boosts college affordability will take time, input from experts with different ideas, and careful planning.

5. Which sentence should replace sentence 3 to **best** state the topic of the passage?

    A. Several states have implemented scholarship programs that allow students to attend public universities and community colleges at a very low tuition rate or for free.

    B. Determining the most effective way to make college affordable is a complex issue, and there are differing opinions about how to approach the problem.

    C. Higher-education institutions should reduce the cost of a college education by finding ways to help students avoid paying for unnecessary classes and materials.

    D. The main concern related to the issue of college affordability is that helping students cover tuition could affect the quality of the education they receive.

6. Read this sentence.

> Some note that several states have made their community or state colleges low-cost or free for students with limited resources.

Where should the sentence be added to **best** support the ideas in the second paragraph (sentences 4–7)?

    E. at the beginning of the paragraph (before sentence 4)

    F. between sentences 4 and 5

    G. between sentences 5 and 6

    H. between sentences 6 and 7

7. Which sentence presents information that shifts away from the topic of the third paragraph (sentences 8–13) and should be deleted?

    A. sentence 10

    B. sentence 11

    C. sentence 12

    D. sentence 13

8. Which phrase should be added before sentence 14 to **best** transition to the ideas in the fourth paragraph (sentences 14–17)?

    E. Because college affordability is a complicated issue,

    F. With so many opinions about how to make college affordable,

    G. Until college becomes more affordable,

    H. Although some college affordability programs have been successful,

9. Which concluding sentence should be added after sentence 19 to support the topic of the passage?

    A. The increasing use of technology in college classrooms and the financial support from tuition scholarship programs will make colleges more affordable for many students.

    B. Statewide tuition scholarship programs will make college more affordable for many students, but these programs may lead to new problems.

    C. Until the problems associated with the rising cost of college are solved, many students will pursue other options after graduating high school.

    D. When the issue of college affordability is resolved, students will be able to make decisions about pursuing higher education without cost being the deciding factor.

Reading Comprehension
Questions 10–57

DIRECTIONS: Read each of the following six texts and answer the related questions. You may write in your test booklet as needed to take notes. You should reread relevant parts of each text, while being mindful of time, before marking the **best** answer for each question. Base your answers only on the content within the text.

CONTINUE TO THE NEXT PAGE ▶

Zitkala-Sa (Gertrude Simmons Bonnin) was a Native American writer, musician, teacher, and political activist who was raised on the Yankton Sioux Reservation in South Dakota. In 1900 she published "Impressions of an Indian Childhood" (the term Indian *was commonly used at the time to refer to Native American people) to expose readers to what life is like on a reservation.*

Excerpt from "Impressions of an Indian Childhood"

by Zitkala-Sa

1 Soon after breakfast Mother sometimes began her beadwork. On a bright, clear day, she pulled out the wooden pegs that pinned the skirt of our wigwam[1] to the ground, and rolled the canvas part way up on its frame of slender poles. Then the cool morning breezes swept freely through our dwelling, now and then wafting the perfume of sweet grasses from newly burnt prairie.

2 Untying the long tasseled strings that bound a small brown buckskin[2] bag, my mother spread upon a mat beside her bunches of colored beads, just as an artist arranges the paints upon his palette. On a lapboard she smoothed out a double sheet of soft white buckskin; and drawing from a beaded case that hung on the left of her wide belt a long, narrow blade, she trimmed the buckskin into shape. Often she worked upon small moccasins for her small daughter. Then I became intensely interested in her designing. With a proud, beaming face, I watched her work. In [my] imagination, I saw myself walking in a new pair of snugly fitting moccasins. I felt the envious eyes of my playmates upon the pretty red beads decorating my feet.

3 Close beside my mother I sat on a rug, with a scrap of buckskin in one hand and an awl in the other. This was the beginning of my practical observation lessons in the art of beadwork. From a skein[3] of finely twisted threads of silvery sinews my mother pulled out a single one. With an awl she pierced the buckskin, and skillfully threaded it with the white sinew. Picking up the tiny beads one by one, she strung them with the point of her thread, always twisting it carefully after every stitch.

4 It took many trials before I learned how to knot my sinew thread on the point of my finger, as I saw her do. Then the next difficulty was in keeping my thread stiffly twisted, so that I could easily string my beads upon it. My mother required of me original designs for my lessons in beading. At first I frequently ensnared many a sunny hour into working a long design. Soon I learned from self-inflicted punishment to refrain from drawing complex patterns, for I had to finish whatever I began.

5 After some experience I usually drew easy and simple crosses and squares. These were some of the set forms. My original designs were not always symmetrical nor sufficiently characteristic, two faults with which my mother had little patience. The quietness of her oversight made me feel strongly responsible and dependent upon my own judgment. She treated me as a dignified little individual as long as I was on my good behavior; and how humiliated I was when some boldness of mine drew forth a rebuke from her!

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[1]**wigwam:** hut with an arched framework of poles covered with bark, mats, or animal hides

[2]**buckskin:** leather made from the skin of a male deer

[3]**skein:** coiled length of yarn or other thread loosely wound on a reel

6 In the choice of colors she left me to my own taste. I was pleased with an outline of yellow upon a background of dark blue, or a combination of red and myrtle-green. There was another of red with a bluish-gray that was more conventionally used. When I became a little familiar with designing and the various pleasing combinations of color, a harder lesson was given me. It was the sewing on, instead of beads, some tinted porcupine quills, moistened and flattened between the nails of the thumb and forefinger. My mother cut off the prickly ends and burned them at once in the centre fire. These sharp points were poisonous, and worked into the flesh wherever they lodged. For this reason, my mother said, I should not do much alone in quills until I was as tall as my cousin Warca-Ziwin.

7 Always after these confining lessons I was wild with surplus spirits, and found joyous relief in running loose in the open again. Many a summer afternoon a party of four or five of my playmates roamed over the hills with me. We each carried a light sharpened rod about four feet long, with which we pried up certain sweet roots. When we had eaten all the choice roots we chanced upon, we shouldered our rods and strayed off into patches of a stalky plant under whose yellow blossoms we found little crystal drops of gum. Drop by drop we gathered this nature's rock-candy, until each of us could boast of a lump the size of a small bird's egg. Soon satiated with its woody flavor, we tossed away our gum, to return again to the sweet roots.

From "Impressions of an Indian Childhood" by Zitkala-Sa—Public Domain

A BRIEF HISTORY OF BEADWORK IN SOUTH DAKOTA

Date	Event
1500s	The Dakota use beads made from bones, shells, stones, and animal teeth. European traders bring glass beads to North America.
Late 1600s	The Dakota begin trading with the French in Minnesota.
1830s	The Dakota begin using glass beads in clothing, artwork, and decorations in place of Native-made beads.
1862–1865	The Dakota are expelled from their homelands in Minnesota as a result of the U.S.-Dakota War.
1900s–1920s	The Dakota create items to sell outside their community.

Source: MNopedia

10. In paragraph 1, the phrases "cool morning breezes swept freely" and "wafting the perfume of sweet grasses" affect the tone of the excerpt by suggesting

    E. the sadness that the author feels reflecting upon her former way of life.

    F. the enthusiasm with which the author approached her work indoors.

    G. the fond feelings that the author has toward her childhood experiences.

    H. the mix of emotions that the author feels toward her work and her mother.

11. The author's use of sequence in paragraphs 1 and 2 contributes to the development of ideas in the excerpt by

    A. listing the many steps that are involved in the process of beading in order to explain its difficulty and complexity.

    B. conveying the importance of following the steps of the beading process in a precise order to work most efficiently.

    C. emphasizing the time required to fully prepare for and execute the many large and small tasks in the activity of beading.

    D. detailing each step in preparation for beading in order to highlight the author's enthusiasm for the work.

12. The phrase "just as an artist arranges the paints upon his palette" in paragraph 2 suggests that

    E. beadwork is a true form of art.

    F. color is a source of artistic inspiration.

    G. all artistic activities begin with a series of steps.

    H. the beadworker tries to imitate art.

13. The details in paragraph 3 convey a central idea of the excerpt by suggesting that

    A. the author was interested in the work because she knew her mother was making something for her.

    B. the author had difficulty learning through observation but wanted to help her mother.

    C. the author was determined to behave according to her mother's standards and sought her approval.

    D. the author had great admiration for her mother's precision and mastery of her craft.

14. How does the author distinguish her point of view from that of her mother?

    E. by describing their techniques for knotting sinew thread (paragraph 4)

    F. by describing their approaches to beadwork design (paragraph 5)

    G. by stating her mother's instructions on working with quills (paragraph 6)

    H. by stating her mother's ideas about activities after lessons (paragraph 7)

15. Read this sentence from paragraph 7.

> **Always after these confining lessons I was wild with surplus spirits, and found joyous relief in running loose in the open again.**

Which sentence **best** describes how this sentence fits into the overall structure of the excerpt?

    A. It introduces a shift from the author's demanding relationship with her mother to her more relaxed relationships with friends.

    B. It signals a change from the challenging aspects of life on the reservation to the advantages of living on the prairie.

    C. It highlights a contrast between the focus and control required while working and the freedom of having fun outside.

    D. It concludes the progression of events in the narrative by describing the sequence of events at the end of the author's day.

16. Which sentence **best** summarizes the process of beading that is described in the excerpt?

    E. Take a buckskin bag full of beads and spread them out on a mat in different colors like a paint palette; take a double sheet of buckskin and smooth it out on a table; take a sinew and awl and thread the beads onto the buckskin in a desired pattern.

    F. Cut the double sheet of buckskin into a shape; take a skein of sinew and pierce the buckskin with an awl; thread the sinew with beads of many different colors in a simple or complex pattern; twist the sinew to keep it tight after every stitch into the buckskin.

    G. Arrange the beads into groups of colors on a mat; smooth out a double sheet of buckskin and cut it to shape; take a single thread of sinew; pierce the buckskin with an awl; thread the buckskin with the sinew and string it with beads, carefully twisting after every stitch.

    H. Gather beads, buckskin, sinew, and awl and place them on a mat; cut the buckskin into the desired shape; decide on a pattern for the beads and create it using the sinews and the awl; thread the beads onto the sinew in the desired pattern and twist it tight.

17. The idea that mastering moccasin design and creation requires experience is **best** illustrated in the excerpt through

    A. the information about the advanced technique of incorporating porcupine quills into a design.

    B. the descriptions of the special materials that must be used to make decorated moccasins.

    C. the descriptions of the various color combinations that make an attractive moccasin design.

    D. the example of the author successfully and independently using a sharpened rod.

18. The table after paragraph 7 expands on a central idea in the excerpt because it shows that

    E. the craft the author was learning was a tradition that endured through many generations and changes.

    F. the author's family incorporated traditional materials into their craft as a way of resisting the influence from European traders.

    G. the uniqueness of the cultural tradition that the author learned as a child was eventually recognized in Europe.

    H. the author was able to incorporate color into her craftwork as a result of trade with other peoples.

CONTINUE TO THE NEXT PAGE ▶

At Dusk

by Natasha Trethewey

At first I think she is calling a child,
my neighbor, leaning through her doorway
at dusk, street lamps just starting to hum
the backdrop of evening. Then I hear
5 the high-pitched wheedling[1] we send out
to animals who know only sound, not
the meanings of our words—*here here*—
nor how they sometimes fall short.
In another yard, beyond my neighbor's
10 sight, the cat lifts her ears, turns first
toward the voice, then back
to the constellation of fireflies flickering
near her head. It's as if she can't decide
whether to leap over the low hedge,
15 the neat row of flowers, and bound
onto the porch, into the steady circle
of light, or stay where she is: luminous
possibility—all that would keep her
away from home—flitting before her.
20 I listen as my neighbor's voice trails off.
She's given up calling for now, left me
to imagine her inside the house waiting,
perhaps in a chair in front of the TV,
or walking around, doing small tasks;
25 left me to wonder that I too might lift
my voice, sure of someone out there,
send it over the lines stitching here
to there, certain the sounds I make
are enough to call someone home.

---

[1]**wheedling:** speaking in a flattering manner

19. Which lines from the poem **best** support the idea that the neighbor's efforts to call the cat home directly affect the speaker?

    A. "At first I think she is calling a child, / my neighbor" (lines 1–2)
    B. "the high-pitched wheedling we send out / to animals who know only sound" (lines 5–6)
    C. "I listen as my neighbor's voice trails off. / She's given up calling for now" (lines 20–21)
    D. "left me to wonder that I too might lift / my voice, sure of someone out there" (lines 25–26)

20. The isolation of the words "—*here here*—" in line 7 contributes to the meaning of the poem **mainly** by

    E. demonstrating how people try to communicate in familiar ways but are still sometimes misunderstood.
    F. showing how people can feel desperate to connect with others but give up quickly when their first attempts are ignored.
    G. using the unspoken bond between the neighbor and her cat to highlight the understanding people have with their pets.
    H. illustrating the use of a simple expression to call home those who are loved and missed.

21. The details in lines 10–17 about the cat convey a central idea of the poem by

    A. showing that returning home after experiencing independence is challenging.
    B. suggesting that caring for others means allowing them to grow and to roam freely.
    C. implying that expecting to feel at home in the natural world leads to disappointment.
    D. emphasizing the conflicting desires to return to the familiar and to explore the unknown.

22. The phrases "luminous possibility" and "all that would keep her / away from home" (lines 17–19) affect the poem by

    E. highlighting the cat's lack of concern for the neighbor.
    F. implying that the speaker finds the cat's current situation interesting.
    G. suggesting that the cat is compelled by its sense of wonder to remain outdoors.
    H. indicating that the speaker supports the cat's decision to ignore the neighbor.

23. Read lines 11–13 from the poem.

> **toward the voice, then back**
> **to the constellation of fireflies flickering**
> **near her head**

Which idea from the poem does the imagery in these lines help convey?

A. The cat lacks a preference for going in or staying out.
B. The cat is eager to see what will happen next.
C. The cat wants to understand the unpredictable behavior of the fireflies.
D. The cat is fascinated by the natural world and finds the indoors unremarkable.

24. How does the setting affect the events of the poem?

E. It enables the speaker to regularly overhear the neighbor calling for her cat at dusk.
F. It allows the speaker to observe the neighbor quietly without interacting with her.
G. It shows how living in close proximity helps the speaker feel connected to the neighbor.
H. It shows how feeling isolated causes the speaker to imagine interactions with the neighbor.

25. The poet develops a theme about making connections with others **mainly** through the

A. exploration of the desires of the speaker and the neighbor.
B. speaker's observations of the sights and sounds in the neighborhood.
C. speculations the speaker makes about what the neighbor does inside her house.
D. speaker's explanation of the cat's thoughts and actions.

CONTINUE TO THE NEXT PAGE ▶

Champion of the Channel

1   In 1926 an editor at the *London Daily News* predicted that Gertrude Ederle, an American swimmer with eighteen world records and three Olympic medals, would fail in her attempt to swim across the English Channel. He claimed that "even the most uncompromising champion of the rights and capacities of women must admit that in contests of physical skill, speed and endurance they must remain forever the weaker sex." Yet, at only nineteen years old, Ederle not only became the first woman to accomplish this feat, she also broke the men's record by two hours. Gertrude Ederle's triumphant swim across the English Channel was a testimony to her determination, innovative spirit, and passion for swimming.

2   Crossing the English Channel is a daunting task for any swimmer. At its narrowest point, the channel measures twenty-one miles across. Its icy waters hover around sixty degrees Fahrenheit, and its unruly tides and currents toss swimmers about like bobbing corks. Stinging jellyfish, seaweed, and floating debris from shipwrecks and lost cargoes present added hazards.

3   For decades the channel's perils have defeated countless swimmers. Ederle, too, failed in her first attempt to cross the channel in 1925. Just six miles short of finishing, she became ill, and her coach had to haul her out of the water. Undeterred, Ederle decided to try again. Ederle knew that if she did not complete the challenge this time, she might never get the opportunity to set this record, because a rival female swimmer was preparing to make her second attempt at the crossing as well.

4   To prepare for the marathon swim, Ederle found ways to improve her equipment. She and her sister Meg discovered that melted candle wax perfectly sealed goggle edges, effectively waterproofing Ederle's goggles against hammering waves. The sisters also designed a two-piece silk swimsuit for Ederle. During her first channel-crossing attempt she had worn a standard one-piece swimsuit that, after the lengthy hours of swimming across the channel, had stretched out, filling with water and creating drag, making an already challenging task almost insurmountable. Unlike the cumbersome typical bathing suit, this silk invention weighed little and allowed for easy movement.

5   On August 6, 1926, Ederle waded into the channel near Cape Gris-Nez, France. At first she shivered in the bone-chilling water even though she had covered her body in eight layers of grease for insulation. Her limbs felt stiff. Her strokes were irregular. Driving forward, she fought to clear her mind and find what she called her "sphere," a place where the sea became her only companion and the shrieks of gulls and the humming of boat engines faded away. Using a new overhand stroke called the American crawl, Ederle eventually settled into a steady pace, briskly breaking through waves.

6   Throughout Ederle's swim, two tugboats accompanied her. One carried newspaper reporters who wired dispatches of her progress to shore. The other, displaying a sign that read "This way, ole kid!" with an arrow pointing forward, transported her coach, family, and friends. Her coach played songs, such as "Yes, We Have No Bananas," on a phonograph so that Ederle could time her strokes to the rhythm. Using a net, her coach also passed her baby bottles of broth for nourishment.

7 For hours Ederle swam, dodging debris with an amused smile. However, as she neared the English shore, a sudden fierce storm erupted. The tides and waves forced Ederle backward, and she fought the stubborn swells for several hours. The salty water caused her tongue to swell and inflamed her ears. Yet Ederle felt indescribably happy as she churned through the sea. Finally, as she neared the English shore, the storm abated, and the tide turned. No longer fighting against her, the sea pushed her toward the shore and victory.

8 After fourteen hours and thirty-one minutes, Ederle, on wobbly legs, stepped onto the English shore. The waiting crowd roared, honked their automobile horns, blasted their tugboat whistles, and set off flares that flashed in the sky. Ederle had swum into history.

9 When Ederle returned to New York, she received a parade, where thousands of people shouted "Trudy!" Not only were everyday American citizens proud of Ederle, but also she inspired them to be more active. Over the next few years, more than 60,000 people credited her with motivating them to earn their American Red Cross swimming certificates. Gertrude Ederle's accomplishment proved to the world that with determination and passion, it was possible for a person to achieve his or her goals.

SOLO SWIMS ACROSS THE ENGLISH CHANNEL

Earliest Speed Records		
Year	**Swimmer**	**Time**
1875	Matthew Webb (M)	21 hours, 45 minutes
1923	Enrico Tiraboschi (M)	16 hours, 33 minutes
1926	Gertrude Ederle (F)	14 hours, 31 minutes
1926	Arnst Vierkotter (M)	12 hours, 38 minutes
Current Speed Records		
Year	**Swimmer**	**Time**
2006	Yvetta Hlavacova (F)	7 hours, 25 minutes
2012	Trent Grimsey (M)	6 hours, 55 minutes

26. What do the newspaper editor's comments in paragraph 1 reveal about the challenges Ederle faced in attempting her feat?

    E. Regardless of her ability, being an American put Ederle at a serious disadvantage over a Londoner, who would be more familiar with the English Channel.

    F. At the time, Ederle still needed more training in order to succeed in the daunting task of swimming the English Channel.

    G. While Ederle could participate in athletic competition, some people were not comfortable with her attempt to swim the channel because no woman had ever attempted it before.

    H. In spite of her previous achievements, Ederle still experienced social as well as physical obstacles in attempting to swim the channel.

27. Read this sentence from paragraph 4.

> **During her first channel-crossing attempt she had worn a standard one-piece swimsuit that, after the lengthy hours of swimming across the channel, had stretched out, filling with water and creating drag, making an already challenging task almost insurmountable.**

The word "insurmountable" is used to highlight

    A. how the bathing suit made it impossible for Ederle to make it across the channel.

    B. how Ederle and her sister decided to improve Ederle's swimming equipment in a creative way.

    C. that the flaws in Ederle's bathing suit made a difficult task even more complicated.

    D. that the swimming equipment Ederle used needed to be custom made for her attempt.

28. Which statement describes how the author's use of a problem-and-solution structure in paragraph 5 contributes to the development of ideas in the passage?

    E. Detailing the challenges presented by the cold channel waters highlights the effectiveness of Ederle's training.

    F. Describing Ederle's physical difficulties during her swim provides evidence of the team effort required to ensure her safety.

    G. Explaining the difficulties that arose early in the effort helps predict the additional obstacles that occurred during Ederle's attempt.

    H. Illustrating Ederle's process of blocking out her discomfort shows that swimming the channel was both a mental and a physical challenge.

29. Which sentence **best** supports the idea that Ederle succeeded in swimming across the channel because of her innovative approach to the challenge?

- **A.** "Yet, at only nineteen years old, Ederle not only became the first woman to accomplish this feat, she also broke the men's record by two hours." (paragraph 1)
- **B.** "At first she shivered in the bone-chilling water even though she had covered her body in eight layers of grease for insulation." (paragraph 5)
- **C.** "Using a new overhand stroke called the American crawl, Ederle eventually settled into a steady pace, briskly breaking through waves." (paragraph 5)
- **D.** "The other [tugboat], displaying a sign that read 'This way, ole kid!' with an arrow pointing forward, transported her coach, family, and friends." (paragraph 6)

30. Paragraph 7 contributes to the development of a central idea of the passage by

- **E.** illustrating that Ederle's physical strength and mental fortitude allowed her to stay focused on her goal.
- **F.** conveying that Ederle pushed herself to the edge of her physical capabilities in order to complete the swim.
- **G.** highlighting the impact the severe weather had on Ederle's emotions during her swim.
- **H.** emphasizing the surge of emotions Ederle felt as she came closer to achieving a personal goal.

31. Which sentence from the passage **best** conveys the author's perspective regarding the impact of Ederle's accomplishment?

- **A.** "Undeterred, Ederle decided to try again." (paragraph 3)
- **B.** "For hours Ederle swam, dodging debris with an amused smile." (paragraph 7)
- **C.** "Yet Ederle felt indescribably happy as she churned through the sea." (paragraph 7)
- **D.** "Ederle had swum into history." (paragraph 8)

32. Which sentence is the **best** summary of the steps that Ederle took to prepare for her second attempt to swim across the English Channel?

    E. Working with her sister, Ederle waterproofed her goggles using melted candle wax to seal the edges and designed a two-piece silk swimsuit that was lightweight and would not stretch out during the long swim.

    F. Ederle covered her body in numerous layers of grease for insulation and focused on finding her "sphere" during her swim.

    G. Ederle began training with her coach, who played music while she swam to help her time her strokes to the music.

    H. Ederle focused on developing better equipment than the standard bathing suit that proved cumbersome during her first attempt to cross the channel.

33. The idea that many people were interested in Ederle's attempt to swim the channel is illustrated in the passage **mainly** through the

    A. information about Ederle's competition with another female swimmer who was also attempting to cross the channel.

    B. details about the reports of Ederle's progress during the swim and the celebration of her successful completion of the swim.

    C. details about how Ederle's historic swim contributed to an increase in the number of people learning how to swim.

    D. information about the resources Ederle used throughout her swim to maintain her motivation and stamina.

34. The table builds on the information in the passage **mainly** by

    E. emphasizing that people have continued to swim across the channel and have significantly improved the speed record.

    F. suggesting that Ederle inspired many women to swim across the channel to attempt to break the current speed record.

    G. revealing that other women competed with Ederle to set a record time for swimming across the English Channel.

    H. providing a comparison between the earliest channel-swimming records and the current record times.

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5 Reasons Physical Books Might Be Better Than E-Books

by Shaunacy Ferro

1 Though e-book[1] readers have become a more common sight around town, traditional books still have their evangelists.[2] According to *The New York Times*, e-book sales have been falling in 2015. Print definitely isn't dead. In fact, according to some research, it may actually be a better choice for some readers. While scientists are still trying to tease out exactly how digital reading affects us differently, here are five ways e-books might be inferior to their dead-tree cousins.

E-books can reduce reading comprehension.

2 In a study of middle schoolers, West Chester University researchers found that students who read on iPads[3] had lower reading comprehension than when they read traditional printed books. They discovered that the kids sometimes skipped text in favor of interactive features in the e-books, suggesting that certain multimedia in children's e-books can be detrimental to the practice of reading itself. However, the researchers noted that some interactive features in e-books are designed to enhance comprehension, and that those might be more helpful than game-type interactive graphics.

Young kids can get distracted by e-books.

3 Similar results were found by a small study by the Joan Ganz Cooney Center that consisted of 32 kids reading e-books and print books with their parents. It found that "enhanced" e-books might be distracting. Kids who read enhanced e-books—ones with interactive, multimedia experiences— were more engaged with them physically, but in the end they remembered fewer narrative details than those who read print books or basic e-books.

You remember less about a book's timeline.

4 Another study of adults also found that e-books can be hard to absorb. The researchers asked 25 people to read a 28-page story on a Kindle[4] and 25 to read the story in paperback, then asked the readers to put 14 events from the story in chronological order. Those who read the story on a Kindle performed worse on the chronology test than the book readers, though they performed about the same as print readers in other tests. Earlier research by the same scholars, from Stavanger University in Norway, found that Norwegian 10th graders also remembered more about texts if they read them in print rather than on a computer screen.

They're not great as textbooks.

5 While e-book textbooks are often cheaper (and easier to carry) than traditional door-stop[5] textbooks, college students often don't prefer them. In some surveys of college kids, the majority

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[1]**e-book:** an electronic book, a publication made available digitally for reading on a computer or other device

[2]**evangelists:** advocates or supporters

[3]**iPads:** tablet computers

[4]**Kindle:** device for reading e-books

[5]**door-stop:** a reference to the idea that some textbooks are large and heavy enough to hold a door open

of students have reported preferring print books. However, a 2012 study from the UK's National Literacy Trust of kids ages 8 to 16 found that more than 50 percent of children reported preferring screen reading.

They're tiring.

6 Staring at a lit screen can be tiring for the eyes and the brain. A 2005 study from Sweden found that reading digitally required a higher cognitive workload than reading on paper. Furthermore, staring at LED[6] screens at night can disrupt sleep patterns. A 2014 Harvard study found that people who used e-readers with LED screens at night slept worse and were more tired the next day. So, if you're going to go for an e-book, go for one without the backlight.

7 The take-away message? If you're really trying to absorb material, you might want to go for a physical book. And if you're going to be up all night studying, turn off the backlight.

8 However, all this may not mean that reading on a Kindle is really going to melt your brain. For instance, reading an e-book on a computer is a much different experience than reading on a Kindle, which is specifically designed for consuming books. So, too, is playing with an interactive e-book on an iPad, compared to using a simpler e-book device that only presents the text, with no opportunities to click away into digital distractions.

9 And some studies have found that part of the difference between the way people absorb information from e-books versus paper might be due to approaching e-books differently—in one test, participants didn't regulate their study time with digital books like they did with paper texts, leading to worse performances. It's possible that our expectations of e-book reading—as well as the different designs of the digital reading experience on a computer or iPad or Kindle—might affect how we approach the text and how much effort we put into studying them. As generations of e-book readers evolve, and people become more accustomed to the idea of sitting down with a digital textbook, these factors could change—for better or for worse.

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[6]**LED:** Light-emitting diode; LEDs are often used as a backlight for electronic devices such as smart phones and tablets.

35. The details in paragraph 1 convey a central idea of the passage by noting that

    A. fewer people are buying e-books than printed books.
    B. printed books have some advantages over e-books.
    C. printed books rely on natural materials more than e-books.
    D. some people recommend buying printed books over e-books.

36. Which evidence from the passage **best** supports the claim that "print definitely isn't dead" (paragraph 1)?

    E. Most college students prefer using paper books to using e-books.
    F. Scientists are still studying the effects of reading on a screen.
    G. Paper books are less disruptive to sleep patterns than e-books are.
    H. Reading on a screen can affect both the eyes and the brain.

37. Which sentence from the passage suggests that people in the future will likely choose e-books over print books?

    A. "They discovered that the kids sometimes skipped text in favor of interactive features in the e-books, suggesting that certain multimedia in children's e-books can be detrimental to the practice of reading itself." (paragraph 2)
    B. "However, the researchers noted that some interactive features in e-books are designed to enhance comprehension, and that those might be more helpful than game-type interactive graphics." (paragraph 2)
    C. "Kids who read enhanced e-books—ones with interactive, multimedia experiences—were more engaged with them physically, but in the end they remembered fewer narrative details than those who read print books or basic e-books." (paragraph 3)
    D. "However, a 2012 study from the UK's National Literacy Trust of kids ages 8 to 16 found that more than 50 percent of children reported preferring screen reading." (paragraph 5)

38. How does paragraph 7 fit into the overall structure of the passage?

    E. It indicates where the author changes the purpose of the writing.

    F. It introduces the author's opinion on the issue.

    G. It signals a shift in the position of the author.

    H. It begins the author's commentary on the preceding information.

39. Which sentence from the passage **best** reveals the author's point of view about e-books?

    A. "While scientists are still trying to tease out exactly how digital reading affects us differently, here are five ways e-books might be inferior to their dead-tree cousins." (paragraph 1)

    B. "While e-book textbooks are often cheaper (and easier to carry) than traditional door-stop textbooks, college students often don't prefer them." (paragraph 5)

    C. "For instance, reading an e-book on a computer is a much different experience than reading on a Kindle, which is specifically designed for consuming books." (paragraph 8)

    D. "So, too, is playing with an interactive e-book on an iPad, compared to using a simpler e-book device that only presents the text, with no opportunities to click away into digital distractions." (paragraph 8)

40. The studies described in paragraph 6 are important to the author's observations in paragraphs 7 and 8 because the findings

    E. show that the author has personal opinions to share beyond the ideas included in the studies.

    F. give the author the opportunity to reach practical conclusions about reading that are based on scientific evidence.

    G. highlight the author's statement that digital reading experiences vary based on the individual and the device.

    H. support the author's inference that more studies on more types of devices are needed.

41. Which evidence in the passage is **most** relevant to the author's claim that "our expectations of e-book reading . . . might affect how we approach the text" (paragraph 9)?

    A. Studies found that students used their study time less productively with e-books than with print books.

    B. A study found that e-books enhanced with multimedia engaged children to interact physically with the e-books.

    C. Adult readers recalled more details from a story read in a print book than in an e-book.

    D. One study found that people who read e-books had poor recall of chronological events.

42. What is the **best** summary of the research into the effects of e-book reading?

    E. E-books are disliked by college students and preferred by kids, and their interactive features are distracting.

    F. Some e-books can aid comprehension, but most e-book readers remember few details.

    G. E-books reduce reading comprehension and increase distraction, and they are tiring for the eyes and brain.

    H. Enhanced e-books engage children, but they offer them too many opportunities to be distracted by non-reading activities.

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The narrator's summer job is collecting marine specimens in Puget Sound, Washington. In this excerpt, he is looking for specimens in the mudflats before daybreak. Mudflats, or flats, are coastal landforms created when sediment and silt from tides are deposited as the tides recede.

Excerpt from *The Highest Tide*

by Jim Lynch

1 I rounded the oyster beds, to the far side. . . . It was low tide by then, and I saw the water hesitating at its apex, neither leaving nor returning, patiently waiting for the gravitational gears to shift. Dozens of anxious clams started squirting in unison like they did whenever vibrating grains of sand warned them predators were approaching. I stopped and waited with them, to actually see the moment when the tide started returning with its invisible buffet of plankton for the clams, oysters, mussels and other filter feeders. It was right then, ankle deep in the Sound, feet numbing, eyes relaxed, that I saw the nudibranch.[1]

2 In all my time on the flats I'd never seen one before. I'd read about them, sure. I'd handled them at aquariums but never in the wild, and I'd never even seen a photo of one this stunning. It was just three inches long but with dozens of fluorescent, orange-tipped hornlike plumes jutting from the back of its see-through body that appeared to be lit from within.

3 Nudibranchs are often called the butterflies of the sea, but even that understates their dazzle. Almost everything else in the northern Pacific is dressed to blend with pale surroundings. Nudibranchs don't bother, in part because they taste so lousy they don't need camouflage to survive. But also, I decided right then, because their beauty is so startling it earns them a free pass, the same way everyday life brakes for peacocks, parade floats. . . .

4 The dark mudflats loomed like wet, flattened dunes stretching deep into Skookumchuck Bay in front of our house. From a distance, they looked too barren to support sea life. Up close, they still did, unless you knew where to find the hearty clams, worms and tiny creatures that flourish in mud. . . . I'm not sure why I decided to take a look. It was still an hour before sunrise, and I knew exactly what the bars[2] looked like in the moonlight, but for some reason, I couldn't resist.

5 I heard it long before I saw it. It was an exhale, a release of sorts, and I instantly wondered if a whale was stranded again. We had a young minke[3] stuck out there two summers prior, and it made similar noises until the tide rose high enough for rescuers to help free it. . . . I looked for a hulking silhouette but couldn't find one. I waited, but there were no more sounds. Still, I went toward what I thought I'd heard, avoiding stepping into the mud until I had to. I knew the flats well enough to know I could get stuck just about anywhere. The general rule was you didn't venture out past the shells and gravel with an incoming tide. I sank up to my knees twice, and numbing water filled my boots.

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[1]**nudibranch:** type of sea slug

[2]**bars:** sandbars

[3]**minke:** species of small whale

6 . . . I kept stepping toward the one sound I'd heard, a growing part of me hoping I'd find nothing at all. When I stopped to rest and yank up my socks, my headlamp crossed it. My first thought? A giant octopus.

7 Puget Sound has some of the biggest octopi in the world. They often balloon to a hundred pounds. Even the great Jacques Cousteau[4] himself came to study them. But when I saw the long tubular shape of its upper body and the tangle of tentacles below it, I knew it was more than an octopus. I came closer, within fifty feet, close enough to see its large cylindrical siphon[5] quiver. I couldn't tell if it was making any sounds at that point, because it was impossible to hear anything over the blood in my ears. . . .

8 The creature's body came to a triangular point above narrow fins that lay flat on the mud like wings, but it was hard to be sure exactly where it all began or ended, or how long its tentacles truly were, because I was afraid to pry my eyes off its jumble of arms for more than half a second. I didn't know whether I was within reach, and its arms were as big around as my ankle and lined with suckers the size of half-dollars. If they even twitched I would have run. So, I was looking at it and not looking at it while my heart spangled my vision. I saw fragments, pieces, and tried to fuse them in my mind but couldn't be certain of the whole. I knew what it had to be, but I wouldn't allow myself to even think the two words. Then I gradually realized the dark shiny disc in the middle of the rubbery mass was too perfectly round to be mud or a reflection.

9 It was too late to smother my scream. Its eye was the size of a hubcap.[6]

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[4]**Jacques Cousteau:** renowned French oceanographer

[5]**siphon:** tube-like organ that is used for drawing in or removing fluids

[6]**hubcap:** removable cap over the end of a wheel axle

43. In paragraph 3, the phrase "the butterflies of the sea" conveys the idea that

    A. nudibranchs do not have to work as hard as other animals to survive in the ocean.
    B. nudibranchs have colorful features that make them stand out.
    C. nudibranchs are delicate and have trouble adapting to their environment.
    D. nudibranchs are rare and difficult to find in the ocean.

44. Read these sentences from paragraph 4.

> **I'm not sure why I decided to take a look. It was still an hour before sunrise, and I knew exactly what the bars looked like in the moonlight, but for some reason, I couldn't resist.**

The sentences contribute to the overall structure of the excerpt by

E. introducing the mysterious creature that the narrator discovers.

F. indicating a shift from the narrator recalling the past to the narrator reflecting on the present.

G. establishing a struggle with fear that the narrator must overcome.

H. building tension through indicating that the narrator is going to see something unexpected.

45. The narrator's actions in paragraph 5 reveal that he is

A. expecting to see the familiar sight of a stranded minke.

B. confident about exploring farther into the mudflats.

C. unconcerned about becoming stuck in the mudflats.

D. determined to discover the source of the sound.

46. How does the setting affect the plot of the excerpt?

E. The darkness of the mudflats before sunrise causes the narrator to pay close attention to his surroundings.

F. The rugged terrain of the mudflats makes it more difficult for the narrator to do his job.

G. The slow return of the tide along the mudflats forces the narrator to be patient during his journey.

H. The barren appearance of the mudflats creates a sense of mystery that unsettles the narrator.

47. Which sentence from paragraph 5 supports the idea that the narrator is taking a risk?

A. "It was an exhale, a release of sorts, and I instantly wondered if a whale was stranded again."

B. "I looked for a hulking silhouette but couldn't find one."

C. "I waited, but there were no more sounds."

D. "I knew the flats well enough to know I could get stuck just about anywhere."

48. Read this sentence from paragraph 6.

> **I kept stepping toward the one sound I'd heard, a growing part of me hoping I'd find nothing at all.**

How do the narrator's actions develop a central idea of the excerpt?

E. The narrator's concern about the origin of the noise shows dedication to helping preserve sea life in the mudflats.

F. The narrator's curiosity about the sea life in the mudflats outweighs any fear about the situation.

G. The narrator's knowledge about a variety of sea life encourages a search for more specimens to study.

H. The narrator's eagerness about new specimens of sea life outweighs the reality that the area is an unlikely place to find them.

49. Read these sentences from paragraph 8.

> **So, I was looking at it and not looking at it while my heart spangled my vision. I saw fragments, pieces, and tried to fuse them in my mind but couldn't be certain of the whole.**

The sensory language "spangled my vision," "I saw fragments, pieces," and "tried to fuse them in my mind" conveys the narrator's

A. extreme excitement about making a great discovery.

B. reluctant acceptance that he needs to leave the mudflats.

C. terrified confusion about the creature in the mudflats.

D. sudden concern about his personal safety.

50. The author develops the narrator's point of view when the narrator sees the creature by

E. describing the narrator's movements as he approaches the creature.

F. emphasizing the odds of finding the creature in an area inhabited by a rival species.

G. showing the narrator's growing realization of the creature's identity.

H. comparing the size of the creature to the size of a vehicle.

The author of this opinion article attended a symposium, or conference, in Missoula, Montana, at which biologists and other scientists discussed species of plants and animals that are not native to the areas in which they live.

Excerpt from "It's Time to Stop Thinking That All Non-Native Species Are Evil"

by Emma Marris

1 Invasive species are scary. It was ecologist Charles Elton, back in the 1950s, who introduced the militaristic "invasion" metaphor to describe exotic plants and animals—but there's no question some can be extremely destructive.

2 The brown tree snake has eaten a dozen kinds of forest birds in Guam to extinction; zebra mussels clog pipes around the Great Lakes; the common house cat turns out to be, in Australia, a mercilessly effective killer of cute, fluffy marsupials like the bilby and the numbat.

3 As scientists have sounded the alarm about these pests, the public has gotten the message. Citizen groups rip out non-native plants. Native gardens have become increasingly popular, both as ways to celebrate the unique flora of each region and as tiny hot spots of diversity. Native trees provide food for native bugs, which feed native birds. Food chains developed over thousands of years of co-evolution unfold in our backyards. . . .

4 So we've learned, scientists and laypeople alike, that native species are good and non-natives are bad.

5 Julian Olden, a biologist at the University of Washington, Seattle, who co-organized the symposium, recently polled nearly 2,000 ecologists. Among his findings: a substantial number of them said they would immediately eradicate a hypothetical non-native forest plant, even if it were shown to have no effect on the forest. Olden calls this the "guilty even when proven innocent" approach.

6 That kind of approach is not very useful on a rapidly changing planet.

Exotics Are Everywhere

7 Climate change is making it harder even to decide who the invaders are.

8 How, scientists at the symposium wondered, do you define "native" on a warming planet, when plants and animals are already moving toward the poles or up mountainsides in search of climate conditions they can tolerate? Should we consider them "invasive" in their new homes? Regardless of what we label them, conservationists will be reluctant to remove them from their new environs—to do so would stymie[1] their chances of adapting to the warmer future we're creating.

9 And then there are the non-natives that we actually like. Most domestic crops are exotic in most of the places they're grown, but there are even wild exotics that "do good," forming useful relationships with native species.
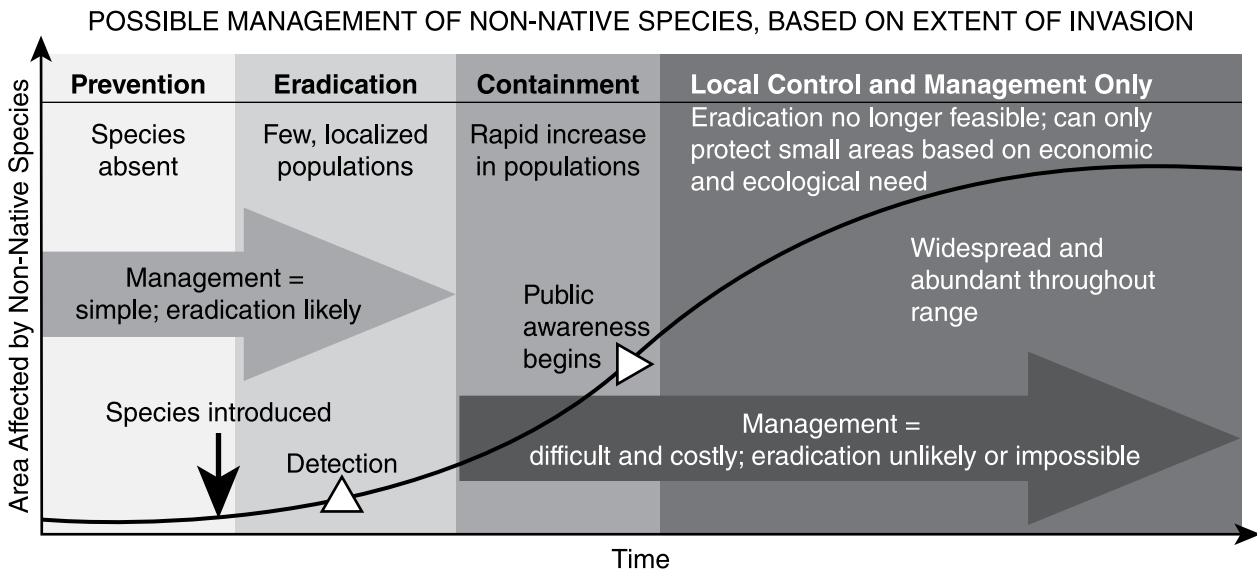
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[1]**stymie:** hinder or interfere with

10 Edwin Grosholz of the University of California, Davis, told the recent symposium about one such relationship. On beaches in his state, non-native spartina grass has become important habitat for the endangered California clapper rail, a plump shorebird with a downward curving bill more at home on land than in the air. A project to rip out and poison the spartina—which grows in dense swaths that exclude many other shorebirds—saw clapper rail numbers go tumbling downward.

11 There are other examples like that. The endangered southwestern willow flycatcher nests in "invasive" tamarisk shrubs. Many native (and beautiful) Hawaiian flowers are now pollinated by the Japanese white-eye bird—because the native pollinators have been driven extinct by other non-native species.

12 Should we impose further risk on already endangered natives by severing these relationships? Or should we admire the resilience of nature and let such "well-behaved" exotics stay? . . .

13 Leave them alone, more and more conservationists are arguing, and stop focusing obsessively on categorizing species as native or non-native. Mark Davis, an ecologist at Macalester College in St. Paul, Minnesota, once considered himself an "invasion biologist"—but not anymore. "I am actively trying to get the field to retire the invader narrative," he said in Missoula.

A Good Thing, Not the Only Thing

14 After all, nativeness is just one environmental value, and arguably not as important as preventing extinctions and preserving biodiversity. In some cases we can best serve biodiversity by leaving the non-natives alone or even—brace yourself, now—introducing them on purpose.

15 This is the thinking behind, for example, installing the Aldabra tortoise on the islands of Mauritius. The islands lost their own large tortoises, and the fruiting plants that formerly had their seeds moved around by these fruit-loving reptiles have been on the decline. A tortoise that's related to the island's large tortoises—a non-native from the Seychelles in the Indian Ocean that was intentionally introduced in 2004—is now handling some of that work.

16 Most of the time, for the time being, conserving species still means focusing on supporting them in their historical habitats, planting natives and removing non-natives. We can and should do that in places where it is feasible and important to us.

POSSIBLE MANAGEMENT OF NON-NATIVE SPECIES, BASED ON EXTENT OF INVASION

Prevention	Eradication	Containment	Local Control and Management Only
Species absent	Few, localized populations	Rapid increase in populations	Eradication no longer feasible; can only protect small areas based on economic and ecological need

Management = simple; eradication likely

Species introduced

Detection

Public awareness begins

Widespread and abundant throughout range

Management = difficult and costly; eradication unlikely or impossible

Area Affected by Non-Native Species

Time

51. Which sentence from the excerpt supports the conclusion that Elton's "militaristic 'invasion' metaphor" (paragraph 1) has influenced scientific understanding of non-native species?

A. "Among [Olden's] findings: a substantial number of them said they would immediately eradicate a hypothetical non-native forest plant, even if it were shown to have no effect on the forest." (paragraph 5)

B. "Regardless of what we label them, conservationists will be reluctant to remove them from their new environs—to do so would stymie their chances of adapting to the warmer future we're creating." (paragraph 8)

C. "A project to rip out and poison the spartina—which grows in dense swaths that exclude many other shorebirds—saw clapper rail numbers go tumbling downward." (paragraph 10)

D. "In some cases we can best serve biodiversity by leaving the non-natives alone or even—brace yourself, now—introducing them on purpose." (paragraph 14)

52. Which detail provides the **most** relevant support for the claim that "climate change is making it harder even to decide who the invaders are" (paragraph 7)?

E. the mention in paragraph 8 of non-native species that are forced to seek new habitats

F. the acknowledgment in paragraph 9 that non-native species include many domestic crops

G. the description in paragraph 11 of the interactions between native and non-native species

H. the account in paragraph 13 of an ecologist who changed his beliefs about non-native species

53. The author's use of cause and effect in paragraphs 10–11 **mainly** emphasizes the idea that

    A. some non-native species have helped their environments while others have had harmful impacts.

    B. attempts to remove non-native species have seldom produced desired results.

    C. some endangered native species have flourished because of the presence of non-native species.

    D. interactions between endangered native species and non-native species must be carefully monitored.

54. Which sentence from the excerpt supports the idea that some species are able to adjust to change?

    E. "Native gardens have become increasingly popular, both as ways to celebrate the unique flora of each region and as tiny hot spots of diversity." (paragraph 3)

    F. "Many native (and beautiful) Hawaiian flowers are now pollinated by the Japanese white-eye bird—because the native pollinators have been driven extinct by other non-native species." (paragraph 11)

    G. "After all, nativeness is just one environmental value, and arguably not as important as preventing extinctions and preserving biodiversity." (paragraph 14)

    H. "The islands lost their own large tortoises, and the fruiting plants that formerly had their seeds moved around by these fruit-loving reptiles have been on the decline." (paragraph 15)

55. The details in the section "A Good Thing, Not the Only Thing" convey a central idea of the excerpt by suggesting that

    A. some non-native species can replace native species that are unable to survive on their own.

    B. decisions about whether to keep non-native species should be considered on an individual basis.

    C. the scientists who study rapidly changing ecosystems agree that non-native species enhance biodiversity.

    D. a natural habitat that is healthy should be able to support a blend of native and non-native species.

56. Climate change has affected efforts to manage invasive species **mainly** by causing ecologists to

    E. call upon the public to be more tolerant of the presence of non-native species.

    F. admit that past attempts to eliminate non-native species have damaged the environment.

    G. find ways of ensuring that native species are not harmed by the arrival of new species.

    H. acknowledge that it is not realistic for some species to remain in their native habitats.

57. How does the chart provide additional support for a central idea of the excerpt?

    A. by implying that the public becomes aware of non-native species only after removal is impossible

    B. by showing that the complete removal of non-native species is usually not achievable after a certain period of time

    C. by demonstrating why non-native species can be destructive if they are not removed from an area immediately

    D. by explaining how some conservation groups have approached the removal of non-native species

CONTINUE TO THE NEXT PAGE ▶

PART 2 — MATHEMATICS
57 QUESTIONS

IMPORTANT NOTES

(1) Formulas and definitions of mathematical terms and symbols are **not** provided.

(2) Diagrams other than graphs are **not** necessarily drawn to scale. Do not assume any relationship in a diagram unless it is specifically stated or can be determined from the information given.

(3) Assume that a diagram is in one plane unless the question specifically states that it is not.

(4) Graphs are drawn to scale. Unless stated otherwise, you can assume relationships according to appearance. For example, lines on a graph that appear to be parallel can be assumed to be parallel. This is also true for concurrent lines, straight lines, collinear points, right angles, etc.

(5) Reduce (simplify) all fractions to lowest terms.

GRID-IN QUESTION NOTES

(1) For each grid-in question, write your answer at the top of the grid.

(2) Begin recording your answer in the columns on the far left.

(3) Fill in the circle under the box that matches the number or symbol you wrote. Leave the negative sign bubble blank if your answer is positive.

CONTINUE TO THE NEXT PAGE ▶

Grid-In Questions

Questions 58–62

DIRECTIONS: Solve each problem. On the answer sheet, write your answer in the boxes at the top of the grid. Start on the left side of each grid. Print only one number or symbol in each box. Under each box, fill in the circle that matches the number or symbol you wrote above.

- **Do not fill in a circle under an unused box.**

- **Do not leave a box blank in the middle of an answer.**

---

58. Simplify:

$$-3.8 + 2.3 - (-1.1)$$

---

59. Angle M and angle R are supplementary. The measure of angle R is 5 times the measure of angle M. What is the measure of angle R, in degrees?

60. A juice mixture contains $\frac{3}{16}$ gallon of apple juice and $\frac{3}{40}$ gallon of cranberry juice. How many gallons of apple juice per gallon of cranberry juice does the mixture contain? (Express your answer as a decimal.)

61. Mr. Chan's lawn grows $2\frac{1}{8}$ inches every 2 weeks. He mows his lawn every 2 weeks and cuts off the top $1\frac{3}{4}$ inches of lawn. If Mr. Chan's lawn was 4 inches tall at the beginning of the season, how many inches tall, in decimal form, is Mr. Chan's lawn after 8 weeks?

62.

RESULTS FROM SURVEY OF 110 FAMILIES

Number of Children in the Family	Number of Families
0	45
1	32
2	19
3	8
4	6

The table above shows the number of children in each of 110 families. What is the median number of children in these families?

DIRECTIONS: Solve each problem. Select the answer from the choices given. Mark the letter of your answer on the answer sheet. When you are solving problems, you can write in the test booklet or on the scrap paper given to you.
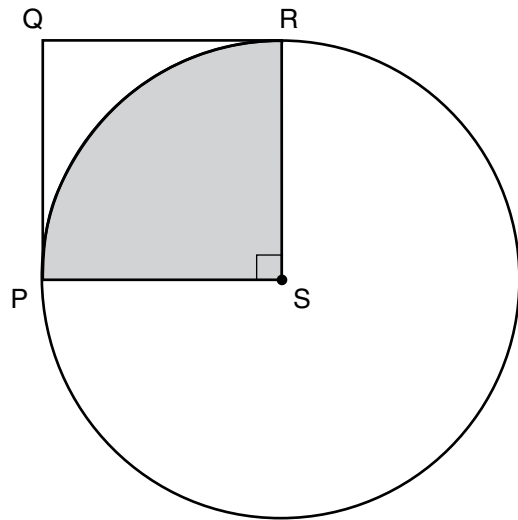
63. Mr. Jones has 550 goats, which is 10% more than Mr. King has. How many **more** goats does Mr. Jones have than Mr. King?

A. 50
B. 55
C. 495
D. 500

64. If $\dfrac{2y}{x} - \dfrac{y}{2x} = \dfrac{\square}{2x}$ and $x \neq 0$, what expression is represented by $\square$?

E. y

F. $2y$

G. $3y$

H. $4y$

65.

In the figure above, PQRS is a square. Point S is the center of the circle, and points P and R are on the circle. If the area of the square is 4 square centimeters, what is the area, in square centimeters, of the shaded quarter of the circle?

A. $\dfrac{\pi}{4}$

B. π

C. 2π

D. 4π

66. A list of consecutive integers begins with *m* and ends with *n*. If $n - m = 66$, how many integers are in the list?

   E. 2
   F. 33
   G. 66
   H. 67

67. Simplify:

$$\frac{\left(\frac{39(x-3)}{3}\right) + 39}{13}$$

   A. x

   B. $x - 2$

   C. $13x - 36$

   D. $x + \dfrac{36}{13}$

68. Jar 1 and Jar 2 each contain $\frac{1}{2}$ cup of water. If $\frac{1}{4}$ of the water in Jar 1 is poured into Jar 2, how much water is now in Jar 2?

   E. $\dfrac{1}{8}$ cup

   F. $\dfrac{1}{4}$ cup

   G. $\dfrac{5}{8}$ cup

   H. $\dfrac{3}{4}$ cup

69. If *n* is a whole number, and 0.01 is between $\dfrac{1}{n}$ and $\dfrac{1}{n+2}$, what is the value of *n*?

   A. 0
   B. 1
   C. 2
   D. 99

70. When asked a certain question in a poll, 72% of the people polled answered yes. If 56 people did **not** answer yes to that question, what is the total number of people who were polled?

E. 78
F. 128
G. 144
H. 200

71. A museum has a room in the shape of a rectangle. The area of the floor is 960 square feet. In a scale drawing of the museum, 1 inch = 20 feet. If the length of the room is 2 inches in the scale drawing, what is the width of this room in the scale drawing?

A. $1\frac{1}{5}$ in.

B. $1\frac{1}{4}$ in.

C. 24 in.

D. 40 in.

72. A program on a computer randomly generates a sequence of whole numbers from 1 to 9, inclusive. If the computer generates a sequence of 300 numbers, what is the best prediction of the number of odd numbers in the sequence?

E. 120
F. 133
G. 150
H. 167

73. A truck rental company charges a one-time fee of $40 plus $1 per mile driven. Dalia rented a truck and used a coupon for 20% off the total rental cost. After the coupon was applied, she spent a total of $60. How many miles did she drive?

A. 8
B. 20
C. 32
D. 35

74. The probability of drawing a red candy at random from a bag of 25 candies is $\frac{2}{5}$. After 5 red candies are removed from the bag, what is the probability of randomly drawing a red candy from the bag?

E. 0

F. $\frac{1}{10}$

G. $\frac{1}{5}$

H. $\frac{1}{4}$

75. Each number in a sequence is formed by doubling the previous number and then adding 1. If the 9th number in the sequence is 63, what is the 10th number minus the 7th number?

A. 96
B. 111
C. 112
D. 127

76.

8.9, 8.2, 8.5, 9.0, 8.4, 8.6, 8.8

At a skating championship, there are seven judges who each award a score for each skater's performance. The highest and lowest scores given to each skater are discarded, and the mean of the remaining scores is then calculated and reported as the skater's final score. What is the final score for the skater who received the scores shown above from the judges?

E. 8.60
F. 8.62
G. 8.64
H. 8.70

77. A piece of wood that is $4\frac{1}{2}$ feet long is cut into 2 pieces of different lengths. The shorter piece has a length of x feet. Which inequality expresses all possible values of x?

A. $0 < x < 2\frac{1}{4}$

B. $0 \leq x \leq 2\frac{1}{4}$

C. $0 < x < 4\frac{1}{2}$

D. $2\frac{1}{4} < x < 4\frac{1}{2}$

78.
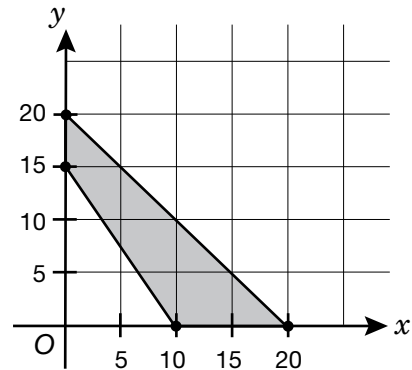
What is the area, in square units, of the shaded region shown in the figure above?

E. 75
F. 125
G. 150
H. 200

79.
$$F = \frac{9}{5}C + 32$$

Yesterday in Centerville, the highest Fahrenheit temperature, F, was 86°, and the lowest was 68°. What was the difference between these temperatures, in degrees Celsius, C?

A. 10.0° C

B. 15.0° C

C. 20.0° C

D. 32.4° C

80. Let x be an odd number. In terms of x, what is the sum of the two even numbers closest to x?

E. x

F. $2x$

G. $2x - 2$

H. $2x - 4$

81. In 1991, the total public debt of the United States was about $3,600,000,000,000. In that year, there were about 250,000,000 people in the United States. Which amount is the best estimate of the public debt per person for that year?

A. $1,440
B. $14,400
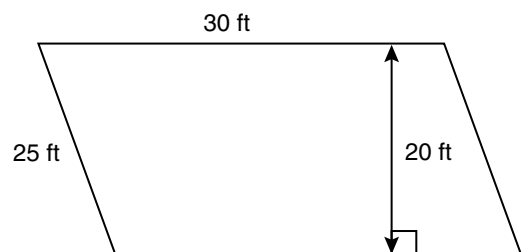**C.** $144,000
D. $14,400,000,000

82.
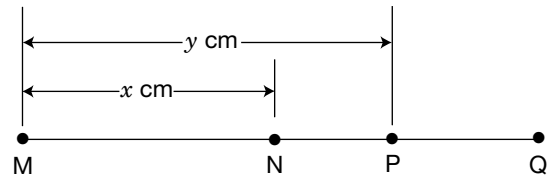
In the figure above, N is the midpoint of $\overline{MQ}$. Which segment has length $(2x - y)$ centimeters?

E. $\overline{PQ}$

F. $\overline{NP}$

G. $\overline{MQ}$

H. $\overline{MP}$

83.

What is the area of the parallelogram shown above?

A. 750 sq ft
B. 600 sq ft
C. 500 sq ft
D. 300 sq ft

84. On Wednesday, a baker produced 100 more loaves of bread than were produced on Tuesday. On Thursday, the baker produced 50 fewer loaves than were produced on Tuesday. If the total number of loaves produced on all three days was 230, how many loaves were produced on Wednesday?

- **E.** 60
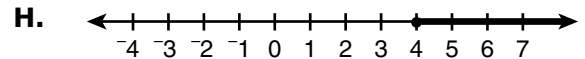- **F.** 80
- **G.** 120
- **H.** 160

85.

QUIZ SCORES IN
MRS. ARCH'S CLASS

Quiz Score	Number of Students
60	9
70	7
80	4
90	5
100	3

In the table above, what is the mean quiz score?

- **A.** 60
- **B.** 70
- **C.** 75
- **D.** 80

86. Which graph represents the solution to the inequality $x + 4 \geq 3$?

E.

F.

G.

H.
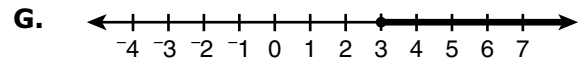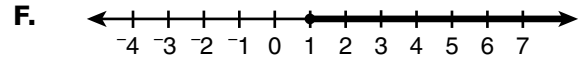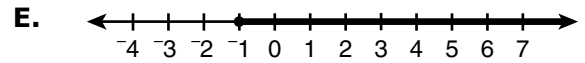
87. The reciprocal of $\frac{1}{4}$ is added to the reciprocal of 3. What is the reciprocal of this sum?

- **A.** $\frac{3}{13}$
- **B.** $\frac{3}{4}$
- **C.** $\frac{4}{5}$
- **D.** $\frac{13}{4}$

88. Nura made a square poster with a side length of 13 inches. Latrice made a square poster with a side length of 15 inches. What is the difference, in square inches, between the area of Latrice's poster and the area of Nura's poster?

E. 56

F. 8

G. 4

H. 2

89.

INGREDIENTS FOR
4 SERVINGS
OF OATMEAL

Ingredient	Cups
Oats	$\frac{2}{3}$
Water	$3\frac{1}{4}$

The table shows the cups of ingredients used to make 4 servings of oatmeal. What is the unit rate for cups of oats per cup of water?

A. $\frac{1}{6}$

B. $\frac{8}{39}$

C. $\frac{13}{16}$

D. $\frac{13}{8}$

90. If $\left(\dfrac{3}{5} - \dfrac{1}{2}\right)x = \dfrac{1}{4} + \dfrac{2}{3}$, what is the value of x?

E. $\dfrac{11}{120}$

F. $\dfrac{2}{7}$

G. $\dfrac{5}{6}$

H. $\dfrac{55}{6}$

91. In a certain state, the sales tax rate increased from 7.0% to 7.5%. What was the increase in the sales tax on a $200 item?

A. $1
B. $10
C. $14
D. $15

92. Evaluate:

$$\left|(-8) - 12 + (-17) - (-31)\right| - \left|24\right|$$

E. $^-30$

F. $^-18$

G. 18

H. 44

93.

CELL PHONE SALES BY COLOR

Color	Percentage of Cell Phones Sold
White	$8k$
Black	30
Blue	$30 - 2k$
Red	$k + 5$
Total	100

The table above shows cell phone sales by color. What percentage of the cell phones sold were blue?
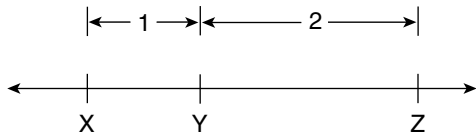
A. 18%
B. 20%
C. 22%
D. 28%

94.

On the number line above, the distance between X and Y is 1 unit, and the distance between Y and Z is 2 units. What is the distance, in units, between Y and the midpoint of X and Z?

E. $\dfrac{1}{2}$

F. 1

G. $1\dfrac{1}{2}$

H. 3

95. By what percent did the price of a cup of coffee increase if its price was increased from $1.25 to $1.35?

A. 7%
B. 8%
C. 10%
D. 12%

96.
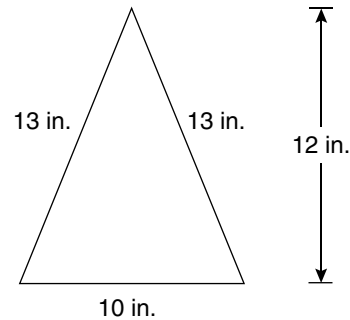
Raquel is cutting out pieces of cardboard to make a pyramid. She will use a square piece for the base and identical triangular pieces for the sides. The figure above shows the dimensions of the triangle for each side. What will be the total surface area, in square inches, of the pyramid, including the square base?

E. 280
F. 295
G. 340
H. 360

97. The price of a sandwich was raised from $6.25 to $6.75. What was the percent increase in the price?

A. 5%
B. 8%
C. 7%
D. 50%

98. Terrell played 5 computer games and earned a mean score of 8 points per game. If his mean score for the first 4 games was 7 points per game, how many points was his score in the fifth game?

    E. 9
    F. 11
    G. 12
    H. 14

99. Lian bought enough oranges to fill 4 bags. Each bag contains 8 oranges. The total cost was $11.52. At that rate, how much would Lian pay for 42 oranges?

    A. $17.28
    B. $15.12
    C. $15.02
    D. $12.52

100. $3.6 \div 0.018 =$

    E. 0.005
    F. 0.648
    G. 20
    H. 200

101. A tank with a 500-gallon capacity currently contains 75 gallons of water. Additional water is poured into this tank at a rate of 5 gallons per minute. After 45 minutes of adding water, what percentage of the tank's total capacity will be filled? (Assume that there is no loss of water from the tank.)

    A. 45%
    B. 55%
    C. 60%
    D. 70%

102. Misha wants to use ribbon to make 2 straps for a backpack. The ribbon costs $5.00 a yard. If each strap requires $1\frac{1}{4}$ yards of ribbon, how much will Misha pay for the ribbon (not including tax)?

    E. $4.00
    F. $6.25
    G. $11.25
    H. $12.50

103. A graph shows the proportional relationship between the number of test questions a student gets correct, x, and the student's test score, y. The ordered pair $\left(1, \frac{5}{4}\right)$ is on the graph. What does the y-coordinate of the ordered pair represent in this relationship?

A. The test will last $1\frac{1}{4}$ hours.

B. Each test question is worth $1\frac{1}{4}$ points.

C. An average student can answer 5 questions in 4 minutes.

D. A student who answers 5 questions correctly will earn 4 points.

104. In a survey of 200 adults in the town of Waskegon, 45 reported reading the online version of the *Waskegon Bulletin* the previous day. If 25,000 adults live in Waskegon, which number is the best estimate of the number of adults who read the online version of the *Waskegon Bulletin* the previous day?

E. 5,600
F. 9,000
G. 11,300
H. 24,800

105. A hiker plans on hiking 17 miles in 3 days. Which equation describes the relationship between the number of days hiked, x, and the number of miles traveled, y?

A. $y = \frac{3}{17}x$

B. $y = 3x$

C. $y = \frac{17}{3}x$

D. $y = 17x$

106. Carolyn walked 3 miles from her house to the library and then $2\frac{1}{2}$ miles farther to the grocery store. Returning home by the same route, she walked $1\frac{2}{3}$ miles before stopping at a friend's house. How many miles did Carolyn have left to walk home?

    E. $3\frac{5}{6}$

    F. $4\frac{1}{6}$

    G. $4\frac{2}{3}$

    H. $7\frac{1}{6}$

107. A child grows $1\frac{1}{4}$ inches in $\frac{1}{3}$ of a year. What would be his yearly growth rate in inches per year?

    A. $\frac{5}{12}$

    B. $3\frac{1}{4}$

    C. $3\frac{3}{4}$

    D. $4\frac{1}{4}$

108. $3(0.01) - 3(0.1) =$

    E. $^-0.33$

    F. $^-0.27$

    G. 0

    H. 0.33

109. What is the value of

$$10\frac{1}{2} + \left(-5\frac{1}{3}\right) - \left(-2\frac{3}{4}\right)?$$

    A. $2\frac{5}{12}$

    B. $7\frac{11}{12}$

    C. $13\frac{1}{12}$

    D. $18\frac{7}{12}$

110. Carlos has $350 in a savings account that earns 5% simple interest each year. How much will he have in the account after 1 year, if there is no money withdrawn?

E. $17.50
F. $175.00
G. $367.50
H. $525.00

111. The probability of an event occurring is 0.05. What is the chance that the event will occur?

A. likely
B. unlikely
C. impossible
D. neither likely nor unlikely

112. The table below shows the number of cups of red paint and blue paint used to make a purple paint mixture.

PURPLE PAINT

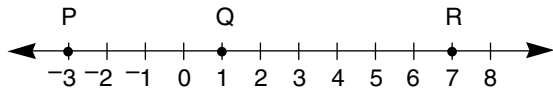| Cups of Red Paint	Cups of Blue Paint
1	1.5
4	6
11	y

Based on the relationship between the number of cups of red paint and the number of cups of blue paint, what is the value of y?

E. 10.5
F. 13
G. 16.5
H. 24

113.

On the number line above, what is the distance, in units, between the midpoint of $\overline{PQ}$ and the midpoint of $\overline{QR}$?

A. 3

B. 4

C. 5

D. 6

114. An ice cream shop sells 16 cups of ice cream for \$48 and 4 cups for \$12. There is a proportional relationship between the number of cups of ice cream and the cost. What is the constant of proportionality for this relationship?

E. 3 cups per dollar

F. 3 dollars per cup

G. 4 cups per dollar

H. 4 dollars per cup

THIS IS THE END OF THE TEST.
IF TIME REMAINS, YOU SHOULD CHECK YOUR ANSWERS. BE SURE THAT THERE ARE NO STRAY MARKS, PARTIALLY FILLED ANSWER CIRCLES, OR INCOMPLETE ERASURES ON YOUR ANSWER SHEET. ■

Form A

Sample Test – English Language Arts Explanations of Correct Answers

REVISING/EDITING PART A

1. The question asks for the **most** precise revision for the words "The engineers tried some other things."

   A. Incorrect. This revision uses the word "materials" rather than precisely identifying what the engineers used.

   B. **CORRECT.** This option revises the words to be more precise by using the specific words "tested" for the verb and "foam and fiberglass" for the materials.

   C. Incorrect. This revision uses the word "examined" rather than a word indicating a process of experimental trial and error. The sentence also uses the word "materials" rather than precisely identifying what the engineers used.

   D. Incorrect. This revision identifies the materials, but the imprecise verb "worked with" does not specify what the engineers were doing.

---

2. The question asks for the identification of the sentence in the paragraph that has an error in its construction and should be revised.

   E. **CORRECT.** Sentence 1 contains a structural error. The sentence begins with a list of modifying phrases: "Walking dogs, cleaning kennels, hand-feeding newborn kittens, and supporting the pet-adoption process." As written, this list modifies the closest noun phrase, "the animal shelter," which is illogical because the list describes tasks at the animal shelter, not the shelter itself. The list should follow the word it modifies, "tasks," at the end of the sentence, so that it is closer to the word that it modifies.

   F. Incorrect. Sentence 2 does not contain structural errors. The phrase "especially those who aspire to care for and protect animals" in sentence 2 correctly modifies "young people."

   G. Incorrect. Sentence 3 does not contain structural errors. The structure of sentence 3 allows the words "In addition to hands-on training with animal care" to correctly modify "volunteers will learn."

   H. Incorrect. Sentence 4 does not contain structural errors. The phrase "which is the awareness and understanding of the feelings of others" in sentence 4 correctly modifies the word "empathy."

3. The question asks for the correction needed for an error in the sentence.

    A. Incorrect. When a place name has more than one element, a comma is used to separate the elements for clarity.

    B. **CORRECT.** The sentence needs a comma to set off the clause "which is considered one of the 'new' Seven Wonders of the World," because the clause is not essential to the meaning of the sentence (nonrestrictive clause). This option is correct because it places a comma where it is needed, after "Italy," to set off the nonrestrictive clause that follows.

    C. Incorrect. This edit would remove the comma at the end of the nonrestrictive clause, which should be set off by commas at the beginning and the end.

    D. Incorrect. A comma after "built" would separate the predicate "and once could hold up to 50,000 spectators" from the subject of the main clause. The predicates "is the largest amphitheater ever built" and "once could hold up to 50,000 spectators" both relate to the same subject ("The Colosseum in Rome, Italy"), so a comma should not be used to separate the second predicate from that subject.

---

4. The question asks for the revisions that are needed to correct errors in the paragraph.

    E. Incorrect. The revisions introduce new errors. The colon after "wonder" is needed to set off the question "what is the difference between the two?" from the rest of the sentence. In addition, changing the verb "is" to "are" would be incorrect with the use of the singular noun "difference," which is the subject of the question.

    F. Incorrect. The revisions introduce new errors. The comma following the introductory phrase "To start with" helps with clarity and is needed to separate the phrase from the rest of the sentence. Changing "it is" to "they are" would be incorrect with the use of the singular noun "butterfat content," which is what the words "it is" refer to in the sentence.

    G. Incorrect. The revisions introduce new errors. The comma following "process" is necessary to set off the nonrestrictive clause "which adds less air to the frozen treat" from the rest of the sentence. This clause is considered a nonrestrictive clause because it provides additional, but not essential, information about the mixing process. Changing the verb "makes" to "make" would be incorrect with the use of the singular noun "mixing process," which is the subject of the sentence.

    H. **CORRECT.** Deleting the comma after "gelato" would include the clause "and allow it to melt more quickly" with the first part of the clause "which enhances the texture and flavor of the gelato." The word "and" between the two verb phrases ("enhances the texture and flavor of the gelato" and "allow it to melt more quickly") indicates that the two verb phrases share a subject, "which" (referring to the act of serving gelato 10 to 15 degrees warmer than ice cream). The two ideas should not be separated by a comma within the clause. The entire clause "which enhances the texture and flavor of the gelato and allow it to melt more quickly" should be separated from the main clause only by the comma after "cream" because the entire clause is a nonrestrictive clause. This clause provides additional, but not essential, information about the purpose of serving gelato at a warmer temperature than ice cream. Changing the verb "allow" to "allows" is also necessary to match the use of the singular pronoun "which."

REVISING/EDITING PART B

5. The question asks which sentence should replace sentence 3 to **best** state the topic of

the passage.

   A. Incorrect. Although this sentence mentions that "several states have implemented
   scholarship programs," it does not clearly introduce the topic of the passage, which is
   differing opinions about and approaches to solving the problem of the cost of college.

   B. **CORRECT.** This sentence best replaces sentence 3 because it clearly states the topic of
   "determining the most effective way to make college affordable." It also provides an
   introduction to the "differing opinions" of proponents, who believe that states should provide
   low-cost or free tuition, and opponents, who believe that such state programs are
   "unsustainable" (sentence 8).

   C. Incorrect. This sentence mentions the role of higher-education institutions in helping
   "reduce the cost of a college education" for students, which is a idea discussed in
   sentences 14 and 15 in the passage. Although the sentence provides details to support the
   topic of the passage by referring to "ways to help students avoid paying for unnecessary
   classes and materials," it does not state the topic, which is differing opinions about and
   approaches to solving the problem of the cost of college.

   D. Incorrect. Even though this sentence mentions "college affordability," it is primarily focused
   on a problem that is related to, but different from, the issue discussed in the passage. The
   passage is concerned with "the price of higher education" (sentence 2), not how tuition
   rates "affect the quality of the education [students] receive."

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6. The question asks where the sentence should be added to **best** support the ideas in the second

paragraph (sentences 4–7).

   E. Incorrect. Sentence 4 introduces the main idea of the second paragraph (making college "a
   financially realistic option for those who aspire to obtain a degree") and should not be
   preceded by the added sentence, which focuses more narrowly on the specific ways that
   some states are implementing that idea.

   F. **CORRECT.** The added sentence provides a proposed solution to the issue stated in
   sentence 4, that "a college education should be a financially realistic option." Sentence 5 is
   an example of the programs discussed in the added sentence.

   G. Incorrect. Sentences 5 and 6 offer examples of state governments providing "low-cost or
   free" tuition. The added sentence introduces this idea in the second paragraph and should
   come before these specific examples are provided as evidence.

   H. Incorrect. Sentence 6 provides an example of the state government of Tennessee providing
   "low-cost or free" tuition, and sentence 7 further explains the opinion of those in favor of
   such programs ("a step in the right direction for making college affordable"). However, the
   ideas in sentences 6 and 7 follow from and support the idea in the added sentence.
   Therefore, the added sentence should be placed before sentences 6 and 7, which help
   elaborate its idea.

7. The question asks which sentence presents information that shifts away from the topic of the third paragraph (sentences 8–13) and should be deleted.

A. Incorrect. Sentence 9 explains that scholarship funding comes "from the state's budget, which primarily comes from state taxes." Sentence 10 logically follows the idea in sentence 9 by explaining that "as more students choose to attend college, more funds will be needed to cover the costs." Therefore, sentence 10 should not be deleted, because it does not shift away from the topic of the paragraph.

B. CORRECT. Sentence 10 makes the claim that "as more students choose to attend college, more funds will be needed to cover the costs." Sentence 11 shifts away from this topic by focusing on how switching majors or working affects students' ability to finish college, rather than on the additional funds that will be needed for scholarship programs. Therefore, sentence 11 should be deleted.

C. Incorrect. Sentence 9 states that scholarship program funding comes "from the state's budget, which primarily comes from state taxes." Sentence 10 points out that "as more students choose to attend college, more funds will be needed to cover the costs." Sentence 12 elaborates on the critics' opinions discussed in sentences 8–10. It reflects the belief that the "circumstances" described in sentences 9 and 10 "will inevitably lead to an increase in taxes, a decline in the quality of the education offered by the schools, or both." Thus, sentence 12 should not be deleted, because it does not shift away from the topic of the paragraph.

D. Incorrect. Sentence 13 refers back to the "critics" mentioned in sentence 12 and expands on the critics' concern about increased taxes mentioned in sentence 12 by stating that "narrower college-affordability efforts . . . may be more effective and viable solutions." Therefore, sentence 13 should not be deleted because it logically follows the ideas in sentence 12 and serves as a concluding sentence for the paragraph.

8. The question asks which phrase should be added before sentence 14 to **best** transition to the ideas in the fourth paragraph (sentences 14–17).

E. Incorrect. Sentence 13 summarizes the viewpoint of opponents, who believe that targeted approaches to funding education "may be more effective and viable solutions," and sentence 14 serves to introduce how "faculty and students at higher-education institutions can work to keep costs down." Affordability is "a complicated issue," but the use of the word "Because" suggests that the ideas that follow in sentences 14–17 will explain a cause-and-effect relationship. However, sentences 14–17 discuss ways faculty and students should work together to keep the cost of college down while waiting for a long-term solution to the problem, not a causal relationship.

F. Incorrect. Sentences 4–13 provide information about the viewpoint of proponents, who believe that "a college education should be a financially realistic option for those who aspire to obtain a degree" (sentence 4), and opponents, who believe free college programs are "unsustainable" (sentence 8). Although the phrase in this option mentions "opinions," it indicates that the fourth paragraph will discuss why the number of opinions makes affordability a debatable issue. Instead, the fourth paragraph discusses ways faculty and students can help keep costs down until a solution is reached.

G. CORRECT. Sentence 13 summarizes the viewpoint of opponents, who believe that targeted approaches to funding education "may be more effective and viable solutions," while proponents "generally believe that these [government] programs are a step in the right direction for making college affordable" (sentence 7). However, sentences 14–17 offer three possible solutions that could alleviate the problem in the meantime. Therefore, the phrase in this option should be added before sentence 14 to best transition to the ideas in the fourth paragraph because it suggests that until the issue of affordability is resolved, alternatives are available to help make a college education more affordable.

H. Incorrect. This phrase mentions "college affordability," a topic discussed in the fourth paragraph. However, the ideas introduced in the phrase do not logically lead into the ideas discussed in sentences 14–17, because the phrase mentions "programs [that] have been successful," whereas the paragraph states that "faculty and students at higher-education institutions can work to keep costs down" (sentence 14) and that colleges "should account for experience by allowing students to demonstrate their knowledge in order to avoid having to pay to sit through classes on subjects they have already mastered" (sentence 16). Use of the words "can" and "should" in these sentences indicates that the actions or programs mentioned in the paragraph have not been completed.

9. The question asks which concluding sentence should be added after sentence 19 to support the topic of the passage.

A. Incorrect. Although sentence 15 cites "increased access to computers, mobile devices, and the Internet" and states that "there are more opportunities for students to take courses online, thus reducing the need for and cost of maintaining physical classrooms," the primary topic discussed throughout the passage is that state and federal governments, not faculty and students, must resolve the issue of college affordability. Therefore, the sentence should not be added after sentence 19, because it does not support the topic.

B. Incorrect. Sentence 5 presents the example of the New York State legislature, which "passed a bill creating a program to cover the tuition costs for nearly one million students." Sentence 12 states that critics of this type of program believe that certain circumstances "will inevitably lead to an increase in taxes" or other issues such as low-quality education. However, the idea that these types of programs may lead to new problems is not thoroughly discussed in the passage. Therefore, the sentence should not be added after sentence 19, because it does not support the topic.

C. Incorrect. Although sentence 7 states that scholarship programs are helpful "for students who would have had to take out loans or who would have decided not to pursue higher education at all," the passage does not state that many students will stop pursuing higher education until the affordability issues are solved. In fact, sentence 14 states that there are ways faculty and students can "work to keep costs down." Therefore, the sentence should not be added after sentence 19, because it does not support the topic.

D. CORRECT. The sentence in this option should be added after sentence 19 to support the topic because it acknowledges that the issue of college affordability discussed throughout the passage is not "resolved" but that when it is, students will be able to make decisions about attending college without concerns about cost. Sentence 18 states that "the solutions to the problems associated with rising college costs are not simple," and sentence 19 adds that "passing legislation that boosts college affordability will take time," ideas, and planning.

Excerpt from "Impressions of an Indian Childhood"

10. The question asks how the phrases "cool morning breezes swept freely" and "wafting the perfume of sweet grasses" affect the tone of paragraph 1 in the excerpt.

- **E.** Incorrect. Although the author describes in paragraph 1 the setting of her childhood experiences, the positive wording of the phrases the author uses in the paragraph ("swept freely" and "perfume of sweet grasses") does not suggest a tone of sadness the author feels when she reflects on her former way of life.
- **F.** Incorrect. Although the phrases "cool morning breezes swept freely" and "wafting the perfume of sweet grasses" used in paragraph 1 create a positive tone, the phrases do not suggest an enthusiasm for the author's work but rather suggest an appreciation of the peaceful beauty of her childhood.
- **G. CORRECT.** In paragraph 1, the phrases "cool morning breezes swept freely" and "wafting the perfume of sweet grasses" are used to describe where the author's childhood experiences took place. The phrases create a tone of fondness and evoke a feeling of happiness through their lyrical sensory detail: "swept freely" suggests a sense of joyful possibility, while "perfume," "sweet," and "cool" convey delight.
- **H.** Incorrect. Although the author describes her mother's beadwork lessons as "confining" in paragraph 7, the phrases in paragraph 1 do not suggest that the author feels conflicting or mixed emotions toward her work and her mother. Instead, the phrases convey a positive tone by affectionately describing the author's childhood home.

11. The question asks how the author's use of sequence in paragraphs 1 and 2 contributes to the development of ideas in the excerpt.

    A. Incorrect. In paragraph 2, the author does list the steps her mother takes in preparation to do beadwork, such as "untying the long tasseled strings" of the bag of beads, spreading the beads beside her on a mat, and using "a long, narrow blade" to trim the buckskin into shape. However, the language used to describe this sequence does not indicate that preparing to work with beads is difficult or complex.

    B. Incorrect. Although the author's description of untying the bag of beads, spreading the beads upon a mat, smoothing out a sheet of buckskin, and trimming the buckskin into shape in paragraph 2 indicates that the mother follows a certain routine, it does not place any emphasis on working most efficiently by following the steps of the beading process in a precise order.

    C. Incorrect. In paragraph 2, the author describes her mother "untying the long tasseled strings that bound a small brown buckskin bag," "spread[ing them] upon a mat beside her bunches of colored beads," "smooth[ing] out a double sheet of soft white buckskin; and drawing from a beaded case that hung on the left of her wide belt a long, narrow blade" to trim the buckskin. Although these descriptions do outline the steps in her process for creating beadwork, they do not emphasize the time required to do so, since the author does not mention in the excerpt how long it took her mother to fully prepare for and complete the large and small tasks in the activity of beading.

    D. CORRECT. In paragraph 1, the author describes how the morning begins with her mother rolling up the canvas of the wigwam and allowing the breeze to come in. In paragraph 2, the author uses sensory language and precise sequencing to describe the way her mother prepares the beading materials by untying "the long tasseled strings that bound a small brown buckskin bag," spreading the "bunches of colored beads" beside her, and smoothing out "a double sheet of soft white buckskin." This combination of sequence and sensory language highlights the author's enthusiasm for beadwork by emphasizing that the author pays close attention to her mother's preparations.

12. The question asks what the phrase "just as an artist arranges the paints upon his palette" in paragraph 2 suggests in the excerpt.

E. CORRECT. In paragraph 2, by comparing the way her mother arranges the beads to the way a painter "arranges the paints upon his palette," the author emphasizes that her mother approaches her craft just as a painter does, thus suggesting that beadwork is a true form of art.

F. Incorrect. Although the author mentions "bunches of colored beads" in paragraph 2, this detail does not provide enough evidence for the idea that color inspires beadworkers. The phrase "just as an artist arranges the paints upon his palette" indicates the connection of beadwork to other forms of art in general, not necessarily to the specifics of color as a source of inspiration.

G. Incorrect. In paragraph 2, the author describes her mother "untying the long tasseled strings" and then spreading "upon a mat beside her bunches of colored beads." However, the phrase "just as an artist arranges the paints upon his palette" does not suggest that all artistic activities begin with a series of steps. There is no mention in the passage of any other artistic activities involving multiple initial steps.

H. Incorrect. In paragraph 2, the author describes how her mother "spread upon a mat beside her bunches of colored beads" as the first step in the artistic process described in the passage. Therefore, the comparison between the mother's process and a painter arranging paints on a palette suggests that the mother is creating art, not imitating it. There is no indication that the mother is copying a technique she has seen in other art forms.

13. The question asks how the details in paragraph 3 convey a central idea of the excerpt.

   A. Incorrect. In paragraph 2, the author mentions how her mother "worked upon small moccasins for her small daughter" and when she did, the author "became intensely interested in her [mother's] designing." However, in paragraph 3, the author is interested in her mother's work mainly as part of her "lessons in the art of beadwork," not because she knew her mother was making something for her.

   B. Incorrect. In paragraph 3, the author receives "practical observation lessons in the art of beadwork" and describes how "from a skein of finely twisted threads of silvery sinews my mother pulled out a single one" and "pierced the buckskin, and skillfully threaded it with the white sinew." The author describes the process in such detail that she provides no indication that she had difficulty learning through observation. The author also does not give any indication in the paragraph that she wanted to help her mother; she was there merely to observe and learn.

   C. Incorrect. Although the author refers to her beading lessons with her mother as "practical observation lessons in the art of beadwork" and indicates that she sat "close beside" her mother while observing her beadwork, the author provides no indication in the paragraph that she was determined to behave according to her mother's standards or that she sought her mother's approval.

   D. **CORRECT.** In paragraph 3, the author describes her mother's artistry and craftsmanship by using language such as "skillfully threaded," "picking up the tiny beads one by one," and "twisting it carefully after every stitch." These close observations indicate that the author greatly admired her mother's mastery of her craft and the precision that went into every detail of her work.

14. The question asks how the author distinguishes her point of view from that of her mother.

    E. Incorrect. In paragraph 4, the author explains that "it took many trials before I learned how to knot my sinew thread on the point of my finger, as I saw her do" and that the "difficulty was in keeping my thread stiffly twisted, so that I could easily string my beads upon it." Although this explanation describes the author's difficulty in performing the same task as her mother, it does not distinguish her point of view from that of her mother. In fact, they seem to share the same point of view regarding the importance of the technique the author is attempting to learn.

    F. **CORRECT.** In paragraph 5, the author distinguishes her point of view from that of her mother by describing their approaches to beadwork design. In the paragraph, the author states, "I usually drew easy and simple crosses and squares" and "My original designs were not always symmetrical nor sufficiently characteristic, two faults with which my mother had little patience." The author also distinguishes her point of view from that her of mother by stating that "the quietness of [my mother's] oversight made me feel strongly responsible and dependent upon my own judgment."

    G. Incorrect. In paragraph 6, the author states, "My mother cut off the prickly ends and burned them at once in the centre fire. These sharp points were poisonous, and worked into the flesh wherever they lodged. For this reason, my mother said, I should not do much alone in quills until I was as tall as my cousin Warca-Ziwin." Although these instructions explain the importance of having experience and skill when working with quills, they do not distinguish the author's point of view from that of her mother.

    H. Incorrect. In paragraph 7, the author describes her beadwork lessons as "confining" and states that she liked to roam "over the hills" with her playmates after the lessons. However, she makes no mention of her mother in paragraph 7; the activities and ideas stated there belong to the author, not the mother.

15. The question asks which sentence **best** describes how the sentence from paragraph 7 fits into the overall structure of the excerpt.

   A. Incorrect. Though the author feels humiliated "when some boldness of mine drew forth a rebuke from" her mother (paragraph 5) and characterizes her lessons with her mother as "confining" (paragraph 7), the overall passage does not portray a demanding relationship between the author and the mother. The shift introduced in the sentence from paragraph 7 is not from one of the author's relationships to another; it is from work to play.

   B. Incorrect. In paragraph 6, the author explains how working with porcupine quills is difficult because the "sharp points were poisonous, and worked into the flesh wherever they lodged." Although this sentence suggests that working with porcupine quills was challenging, the sentence from paragraph 7 does not signal a change from the challenging aspects of life on the reservation to the advantages of living on the prairie. Most of paragraph 6 describes the author's pleasure in creating designs in different colors.

   C. **CORRECT.** In the sentence from paragraph 7, the author refers to her beadwork lessons as "confining" and states that after the lessons, she "was wild with surplus spirits" and "found joyous relief" in being outside and running around. The phrases "surplus spirits" and "joyous relief" highlight a sense of freedom that stands in strong contrast to the "confining" nature of the author's beadwork lessons, which required intense focus and control.

   D. Incorrect. In paragraph 7, the author describes how "many a summer afternoon" after her beadwork lessons, she and her friends used "a light sharpened rod" to gather "sweet roots" and "little crystal drops of gum." She then explains that they later "tossed away our gum, to return again to the sweet roots." However, the sentence from paragraph 7 does not conclude the progression of events in the narrative by describing the sequence of events at the end of the author's day; the sentence appears at the beginning of paragraph 7 and provides a contrast with events from the previous paragraph.

16. The question asks which sentence **best** summarizes the process of beading that is described in the excerpt.

E. Incorrect. In paragraphs 2 and 3, the author describes how at the beginning of the process her mother "smoothed out a double sheet of soft white buckskin" on a lapboard (paragraph 2) and how she strings the beads into a pattern. However, this sentence does not describe the steps that take place between the preparation and the stringing of the beads. Thus, this sentence does not best summarize the beading process.

F. Incorrect. In paragraphs 2 and 3, the author describes the process her mother uses to string the beads with "the point of her thread, always twisting it carefully after every stitch" (paragraph 3). While this sentence includes some of the steps in the beading process, it does not describe the necessary preparation, namely spreading the beads and the buckskin out on a table. Thus, this sentence does not best summarize the beading process.

G. CORRECT. This sentence best summarizes the process of beading that is described in the excerpt because it includes details about each step in the process. In paragraph 2, the author explains how her mother "spread upon a mat beside her bunches of colored beads" and how "on a lapboard she smoothed out a double sheet of soft white buckskin; and drawing from a beaded case that hung on the left of her wide belt a long, narrow blade, she trimmed the buckskin into shape." The author continues her description in paragraph 3, stating, "From a skein of finely twisted threads of silvery sinews my mother pulled out a single one. With an awl she pierced the buckskin, and skillfully threaded it with the white sinew. Picking up the tiny beads one by one, she strung them with the point of her thread, always twisting it carefully after every stitch."

H. Incorrect. In paragraphs 2 and 3, the author describes the process her mother uses as she "smoothed out a double sheet of soft white buckskin" (paragraph 2) on a lapboard before stringing the beads. While this sentence includes most of the steps in the beading process, it excludes the step of piercing the buckskin. This sentence also provides few details about the process of beading and uses vague wording to describe each step. Therefore, the sentence does not best summarize the beading process.

17. The question asks how the idea that mastering moccasin design and creation requires experience is **best** illustrated in the excerpt.

    A. CORRECT. In paragraph 6, the author states that when she became more familiar with elements of design, "a harder lesson was given me." According to the author, sewing on porcupine quills is a much more difficult task to master because it requires experience in handling the poisonous porcupine quills, which is why her mother told her not to "do much alone in quills" until she was older (paragraph 6). This information best illustrates the idea that mastering moccasin design and creation requires experience.

    B. Incorrect. Although the author provides detailed descriptions of the materials used to make decorated moccasins ("colored beads" [paragraph 2]; "a skein of finely twisted threads of silvery sinews" [paragraph 3]; "tinted porcupine quills, moistened and flattened between the nails of the thumb and forefinger" [paragraph 6]), these descriptions do not illustrate the experience that is needed to gain mastery of moccasin design and creation.

    C. Incorrect. Although the author describes the color combinations she used in making moccasins ("I was pleased with an outline of yellow upon a background of dark blue, or a combination of red and myrtle-green. There was another of red with a bluish-gray that was more conventionally used" [paragraph 6]), this information mainly illustrates the author's satisfaction with her moccasin design, not the importance of experience in mastering the creation and design of moccasins.

    D. Incorrect. In paragraph 7, the author tells of using a sharpened rod to spear gum from trees. She explains that she and her playmates used the rods to "[pry] up certain sweet roots" to find the gum. The detail of the sharpened rod is from a recollection about the playtime that followed the "confining lessons" of moccasin making. However, the sharpened rod was not used to create moccasins.

18. The question asks how the table after paragraph 7 expands on a central idea in the excerpt.

    E. CORRECT. The table provides the chronology from the 1500s, when the Dakota created beadwork using "beads made from bones, shells, stones, and animal teeth," to the 1830s, when the Dakota began "using glass beads," and the 1900s, when they created items to "sell outside their community." Thus, the table helps expand on a central idea by showing that the craft the author was learning is a tradition that has endured through many generations.

    F. Incorrect. Although the table shows that the Dakota used "beads made from bones, shells, stones, and animal teeth" in the 1500s and that by the 1830s began "using glass beads in clothing, artwork, and decorations in place of Native-made beads," it does not provide any information about the type of materials used by the author's family.

    G. Incorrect. While the information included in the table states that "European traders [brought] glass beads to North America" in the 1500s and that by the 1920s the Dakota created "items to sell outside their community," there is no mention of whether the uniqueness of Dakota beadwork was recognized in Europe.

    H. Incorrect. The table indicates that by the late 1600s the Dakota began trading with French traders from Europe who brought glass beads to the Americas and that by 1830 the Dakota were "using glass beads in clothing, artwork, and decorations in place of Native-made beads." However, the table provides no information about whether this work incorporated color. Therefore, the table does not show that the author was able to incorporate color into her craftwork as a result of trade with other peoples.

19. The question asks for the **best** textual support for the idea that the neighbor's actions in calling the cat directly affect the speaker of the poem.

    A. Incorrect. Lines 1–2 show that the speaker has noticed the neighbor's calling and guessed the reason for it. The speaker at first believes that the neighbor is "calling a child," but then the speaker notices a sound associated with the time of day—the "street lamps just starting to hum / the backdrop of evening" (lines 3–4). However, the poem does not describe any direct effects on the speaker's own opinions or behavior caused by these aspects of the surroundings.

    B. Incorrect. The "high-pitched wheedling" sound the speaker mentions in line 5 might be assumed to have an annoying effect. However, the poem includes no indication that the sound has any direct effect on the speaker or that the speaker has any personal reaction to the sound. Instead, in lines 6–7, the speaker concentrates on explaining the reason people make the sound: to communicate with "animals who know only sound, not / the meanings of our words."

    C. Incorrect. In lines 20–21, the speaker actively listens "as my neighbor's voice trails off," which could be interpreted as an effect of the neighbor's call. However, the speaker's listening soon comes to an end because the neighbor has "given up calling for now," and the poem does not describe any direct effects on the speaker's own opinions or behavior caused by listening. Therefore, lines 20–21 do not best support the idea that the neighbor's actions directly affect the speaker of the poem.

    D. CORRECT. In lines 25–26, after observing the neighbor calling the cat, the speaker begins to reflect on the speaker's own behavior and motivations, wondering if, like the neighbor, the speaker "might lift" the speaker's voice to call someone who is surely "out there." The speaker's description of being left "to wonder" indicates that the speaker's thoughts are a direct effect of observing the neighbor's efforts to call the cat.

20. The question asks how the isolation of the words "—*here here*—" in line 7 **mainly** contributes to the meaning of the poem.

E. Incorrect. The words "—*here here*—" do interrupt the speaker's observation in lines 7–8 that "our words . . . / . . . sometimes fall short." However, in lines 5–7, the speaker observes that the neighbor accompanies her words with a "high-pitched wheedling" that people "send out" because they are aware that animals "know only sound, not / the meanings of our words," indicating that the neighbor does not actually expect her words to be understood. The description of the cat's response in lines 10–11 ("the cat lifts her ears, turns first / toward the voice, then back") does not suggest that the neighbor's message is misunderstood but rather suggests that the cat prefers not to respond to it.

F. Incorrect. In lines 20–21, the "neighbor's voice trails off," and she does give up calling the cat. However, rather than any desperation to connect, the neighbor's use of a "high-pitched wheedling" (line 5) simply indicates her understanding that the cat, like other animals, understands "only sound, not / the meanings of our words" (lines 6–7) such as "*here here*." Furthermore, the neighbor does not give up quickly. In lines 21–22, the speaker says the neighbor has "given up calling for now" but is still "waiting" for the cat.

G. Incorrect. In lines 4–7, the speaker describes the neighbor calling to the cat with a "high-pitched wheedling." The sound may indicate a bond between the neighbor and the cat because the neighbor does understand that animals "know only sound, not / the meanings of our words" (lines 6–7). However, the use of the words "*here here*" in line 7 do not indicate that bond, because they are used as an example of the type of words that animals do not understand.

H. CORRECT. The speaker's initial thought in line 1 that the neighbor is calling a child, rather than a cat, suggests that the neighbor loves and misses the cat. Lines 4–7 then present the speaker's observation that the neighbor uses a "high-pitched wheedling," to emphasize the simple words of her call, "—*here here*—." The idea that the words are an example of a simple expression used to call home a missed loved one is reinforced in lines 25–29, when the speaker is "left . . . to wonder" whether the speaker, too, "might lift / [his or her] voice" and be able "to call someone home."

21. The question asks how the details in lines 10–17 convey a central idea of the poem.

    A. Incorrect. In lines 10–17, the speaker says that the cat's actions—she "turns first / toward the voice, then back"—makes the cat seem "as if she can't decide" whether to return home or to explore "the constellation of fireflies flickering / near her head." However, while the cat is indecisive, it is not the experience of independence that causes this conflict for the cat but rather the "luminous / possibility . . . flitting before her" (lines 17–19).

    B. Incorrect. The neighbor's calling of the cat indicates that she does allow it to roam outside regularly. However, the details in these lines focus not on whether allowing the cat to roam is an expression of caring but on the cat's reaction to the neighbor's calls, "as if she can't decide" (line 13) whether to return home "into the steady circle / of light" (lines 16–17) or stay and enjoy the "luminous / possibility" (lines 17–18) that the night offers. Furthermore, the neighbor's "wheedling" (line 5) and the timing of her call, "at dusk" (line 3), introduce the possibility that encouraging others to come home expresses more caring than allowing them to roam freely.

    C. Incorrect. Lines 10–17 describe the reactions of the cat, who is exploring the natural world, including a "constellation of fireflies flickering / near her head," when the neighbor calls to her. The poet describes the cat's conflict by saying that "It's as if she can't decide" whether to stay outdoors or return "into the steady circle / of light" at home with the neighbor. However, the cat's indecision demonstrates that, rather than being a disappointment, the natural world is as appealing as home.

    D. CORRECT. Lines 10–11 describe how the cat "turns first / toward the voice, then back," indicating that the cat is experiencing a conflict. To the speaker, the cat seems "as if she can't decide" (line 13) between exploring "the constellation of fireflies" (line 12) outdoors and returning to the familiar "steady circle / of light" (lines 16–17) indoors. This central idea that someone might experience a conflict between exploring and returning to the familiar is suggested again in lines 28–29 when the speaker wonders whether "the sounds I make / are enough to call someone home."

22. The question asks how the phrases "luminous possibility" and "all that would keep her / away from home" (lines 17–19) affect the poem.

E. Incorrect. In lines 20–21, the neighbor's voice "trails off," and the speaker states that "she's given up calling for now," which could be interpreted as a lack of concern. However, these lines describe the neighbor rather than the cat. The phrases from lines 17–19 are used to explain that what keeps the cat from returning home is the allure of "luminous possibility." The use of the phrase "all that would keep her" suggests that the cat would likely return home to the security of "the steady circle / of light" (lines 16–17) if not for the possibilities offered by the night, implying that the cat usually prefers to be at home with the neighbor. The phrases do not highlight a lack of concern for the neighbor on the part of the cat.

F. Incorrect. While the phrase "luminous possibility" does convey a high degree of interest, it is used to describe why being outside at night appeals to the cat. It does not describe the speaker's interest in the cat. The speaker observes the cat as it tries to decide between returning home and staying out and then concludes that it is only "luminous / possibility . . . that would keep [the cat] / away from home."

G. **CORRECT.** The phrases are used to explain that the cat, though tempted to return home, is also tempted or compelled by "luminous possibility" to remain outdoors. The phrases convey a sense of wonder about what the night may offer, and it is the powerful effect of this sense of wonder ("all that would keep her / away from home") that ultimately tempts the cat to remain outdoors rather than return to the comforts of home.

H. Incorrect. Lines 17–19 present the speaker's observations about the cat as it tries to decide whether to stay where it is or return home. The speaker explains that it is only "luminous possibility" that can convince the cat to stay rather than return to the comforts of home. While the speaker then imagines the neighbor indoors, there is no indication that the speaker supports the cat's decision. The speaker merely notes that the neighbor stops calling to the cat "for now" (line 21), and then the speaker reflects on the possible results of calling someone home.

23. The question asks which idea the imagery in lines 11–13 helps convey.

    A. Incorrect. Line 13 includes the speaker's observation that the cat seems "as if she can't decide" whether to stay outside or go to the neighbor. However, the imagery of the "constellation of fireflies flickering" in line 12 suggests that the cat does have a preference for exploring the more exciting "luminous / possibility" (lines 17–18) of the outdoors.

    B. Incorrect. The imagery in lines 10–11 of the cat turning "first / toward the voice, then back" might seem to suggest that the cat is eagerly watching both the neighbor and the fireflies to see what will happen next. However, line 13, in which the cat seems "as if she can't decide," indicates that what will happen next is actually under the cat's control.

    C. Incorrect. The imagery in lines 12–13 of the "fireflies flickering / near her head" does indicate the fireflies' unpredictable behavior. However, the imagery in lines 10–11 of the cat turning "first / toward the voice, then back" establishes that the cat's attention is split between the fireflies and the "high-pitched wheedling" (line 5) of the neighbor's voice, rather than being fully captured by wanting to understand the fireflies.

    D. CORRECT. The imagery in line 12 of "the constellation of fireflies flickering" suggests that the outdoors holds fascinating attractions, an idea supported by the description in lines 17–18 of the cat's current location outdoors as one filled with "luminous / possibility." The imagery in lines 10–11 of the cat turning "first / toward the voice, then back" indicates that the cat has considered but rejected the option of returning indoors, and the description in lines 16–17 of the indoors as offering only a "steady circle / of light" suggests that the indoors seems unremarkable to the cat in comparison to the outdoors.

24. The question asks how the setting affects the events discussed in the poem.

E. Incorrect. In line 2, the speaker refers to the woman calling for her cat as "my neighbor," which clearly suggests that the speaker lives next door to the woman. However, although the two live next door to each other, line 1 suggests that perhaps the speaker does not regularly overhear the neighbor because the speaker initially thinks that the neighbor is "calling a child" and only later realizes the neighbor is calling to a cat. Although the setting places the speaker and the neighbor in close proximity, the poem does not indicate the frequency or regularity with which the speaker overhears the neighbor.

F. **CORRECT.** In the first four lines, the speaker observes the actions of the neighbor as the neighbor leans out to call for the cat at dusk. Despite the speaker's observation of the neighbor, there is no indication that the neighbor notices the speaker. The reader can conclude that because of the time of day and the speaker being in the house next door, the speaker can observe the neighbor without being observed by her or having to interact with her.

G. Incorrect. The setting of the poem is a neighborhood at nightfall, as indicated by "at dusk" in line 3, the reference to "another yard" in line 9, and the flickering fireflies in line 12. However, while the speaker is close enough to the neighbor to overhear her calling to the cat, there is no indication that the speaker feels connected to the neighbor. Instead, the speaker expresses curiosity about the neighbor after the neighbor goes inside, and the speaker is "left . . . / to imagine her inside the house waiting" (lines 21–22). The fact the speaker initially thought that the neighbor was calling a child indicates that the speaker is not familiar with the neighbor and her habits, and there is no indication that the speaker feels connected to the neighbor.

H. Incorrect. In lines 22–24, the speaker imagines what the neighbor may be doing while the neighbor is waiting inside for the cat to return, but the speaker is imagining the neighbor's solitary experience after the neighbor has momentarily "given up" on calling to the cat (line 21). The speaker does not imagine personally interacting with the neighbor but rather briefly imagines what the neighbor is doing at home while the cat is away.

25. The question asks for an explanation of how the poet develops a theme about making connections with others.

    A. CORRECT. The speaker first describes the neighbor calling the cat in a "high-pitched wheedling" (line 5) voice before giving up and returning indoors. The neighbor's desire to have the cat return home prompts the speaker to wonder whether the speaker could call out and be "certain the sounds . . . / are enough to call someone home" (lines 28–29). These final lines most develop the theme of connection by conveying a desire to be able to prompt someone's return.

    B. Incorrect. Line 1, in which the speaker at first thinks the sound in the neighborhood is the neighbor "calling a child," might be assumed to introduce a theme of making connections with others. However, other descriptions of the sights and sounds of the neighborhood, including the time of day—"at dusk, street lamps just starting to hum / the backdrop of evening" (lines 3–4) and "constellation of fireflies flickering" (line 12) near the cat—have no relationship to a theme of connection.

    C. Incorrect. In lines 22–24, the speaker imagines the neighbor's activities inside her house: "perhaps in a chair in front of the TV, / or walking around, doing small tasks." Although the speaker does imagine the neighbor is doing these things to pass time while "waiting" (line 22) for the cat, the neighbor's actions—and even the speaker's imagining—are carried out alone, so they do not develop a theme of connection.

    D. Incorrect. Lines 10–19 present the speaker's observations of the cat, which "turns first / toward the voice, then back" when the neighbor calls, then appears "as if she can't decide" whether to return to the neighbor or stay outside. Although the cat's indecision about whether to heed the neighbor's call might seem to develop a theme about making connections, lines 10–19 focus more on the relative appeal of the cat's two options—returning to "the steady circle / of light" at home or pursuing the "luminous / possibility . . . flitting before her"—than on any connection between the cat and its owner or between the speaker and the neighbor.

26. The question asks what the newspaper editor's comments in paragraph 1 reveal about Ederle's challenges leading up to her attempt to swim across the channel.

    E. Incorrect. The idea that Ederle was at a disadvantage because she was American rather than English, and thus less familiar with the channel, was not the basis for the newspaper editor's comments about the outcome of her swim.

    F. Incorrect. The passage establishes that Ederle was a highly accomplished swimmer who had won major world competitions ("Gertrude Ederle, an American swimmer with eighteen world records and three Olympic medals" [paragraph 1]).

    G. Incorrect. The newspaper editor's point was that Ederle would be unsuccessful in her attempt to complete the swim because she was a woman, not that people were uncomfortable with the idea since no woman had attempted it before.

    H. CORRECT. The comments reveal a lack of social support since many people believed that a woman, no matter how skilled a swimmer, did not have the strength to overcome the physical challenges that the dangerous channel waters presented ("He claimed that 'even the most uncompromising champion of the rights and capacities of women must admit that in contests of physical skill, speed and endurance they must remain forever the weaker sex.' " [paragraph 1]).

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27. The question asks about the effect of the word "insurmountable," which means "incapable of being overcome," in paragraph 4.

    A. Incorrect. Ederle did not complete her first swim because she became ill ("Just six miles short of finishing, she became ill, and her coach had to haul her out of the water." [paragraph 3]), not because the suit made it impossible for Ederle to complete her swim.

    B. Incorrect. The author uses the word "insurmountable" to draw attention to the increased difficulty caused by the suit, not to draw attention to the sisters' creativity in solving the problem.

    C. CORRECT. The suit Ederle wore during her first attempt to swim the channel "stretched out, filling with water and creating drag" (paragraph 4), which likely contributed to her failed attempt to swim across the channel.

    D. Incorrect. The passage does not address whether the original suit was custom made, simply that the suit created additional difficulties for Ederle in a situation that was already difficult.

28. The question asks how a problem-and-solution structure in paragraph 5 contributes to the ideas presented in the passage.

E. Incorrect. The details in paragraph 5 do not provide a connection between the cold temperature of the water and the effectiveness of Ederle's training.

F. Incorrect. The difficulties Ederle encountered were only partially relieved by her team, and her team's efforts to ensure Ederle's safety are not explained in the passage.

G. Incorrect. The paragraph does not focus on the relationship between the problems Ederle encountered at the start of her swim and the problems she encountered during or near the end of her swim.

H. **CORRECT.** The paragraph describes how the water's temperature made Ederle uncomfortable and made it difficult for her to regulate her stroke. The paragraph continues with the explanation of how she overcame these issues by focusing her mind on the sea and tuning out the distractions in her surroundings ("the sea became her only companion and the shrieks of gulls and the humming of boat engines faded away" [paragraph 5]).

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29. The question asks for the **best** support for the idea that Ederle's swim across the channel was successful because of her innovative approach to the challenge.

A. Incorrect. The sentence from paragraph 1 shows that Ederle's performance was groundbreaking but not necessarily innovative.

B. Incorrect. The layers of grease mentioned in the sentence from paragraph 5 primarily served to insulate Ederle (keep her warm) by helping her maintain her body temperature in the cold water; neither the sentence in paragraph 5 nor the surrounding text evidence establishes that this was an innovative practice. Furthermore, the sentence does not show that she succeeded as a result of this approach.

C. **CORRECT.** The sentence from paragraph 5 explains that Ederle employed a newly developed, or innovative, type of stroke that allowed her to maintain her pace through the rough water.

D. Incorrect. The tugboat carrying Ederle's supporters referenced in the sentence from paragraph 6 likely provided encouragement during Ederle's swim, but the sentence does not show that this approach was innovative or that it enabled Ederle's success.

30. The question asks for an explanation of how paragraph 7 contributes to the development of a central idea of the passage.

    E. Incorrect. Although Ederle needed to remain focused on her goal, the idea that her physical strength and mental fortitude allowed her to maintain this focus is not illustrated in paragraph 7. Paragraph 7 instead contributes to the development of a central idea by emphasizing Ederle's emotional responses over the course of her swim.

    F. Incorrect. While paragraph 7 describes some of the physical challenges that Ederle faced ("The salty water caused her tongue to swell and inflamed her ears"), the statement that she "pushed herself to the edge of her physical capabilities" is not the most accurate way to describe the focus of this paragraph. This option is incorrect because it omits the paragraph's focus on Ederle's emotional responses to the challenging circumstances of her swim.

    G. Incorrect. While paragraph 7 describes Ederle's feelings of happiness and amusement during her swim, these feelings were caused by her anticipation and excitement as she approached achieving her goal, not by the severe weather.

    H. CORRECT. Paragraph 7 contributes to the development of a central idea by describing Ederle's emotional state over the course of her swim. A central idea of the passage is that Ederle's passion and determination allowed her to accomplish her goal of being the first woman to cross the English Channel. Paragraph 7 shows her passion and determination by emphasizing the positive emotions Ederle felt as she progressed during her swim, despite the unfavorable conditions ("For hours Ederle swam, dodging debris with an amused smile" and "Yet Ederle felt indescribably happy as she churned through the sea").

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31. The question asks for the sentence from the passage that **best** conveys the author's perspective about the impact of Ederle's swim.

    A. Incorrect. Although this option shows Ederle's determination to accomplish her goal, it does not convey the author's perspective. Rather, the option reinforces Ederle's own perspective about the challenge that she was facing.

    B. Incorrect. The sentence presented in this option is incorrect because it relates to Ederle's state of mind as she came closer to achieving her goal and does not provide details about the author's opinion of the impact of Ederle's accomplishment.

    C. Incorrect. The sentence presented in this option is incorrect because it simply presents Ederle's emotional state as she nears her goal and does not provide information about the author's perspective.

    D. CORRECT. This option is correct because, throughout the passage, the author emphasizes that Ederle's accomplishment was memorable and great, which is best stated in the sentence from paragraph 8.

32. The question asks for the **best** summary of Ederle's steps to prepare for her second attempt to swim across the English Channel.

   E. CORRECT. Ederle's preparation is outlined in paragraph 4. This option is correct because it acknowledges the idea that Ederle involved her sister in this process, and it details the efforts the two took to improve Ederle's equipment, including sealing her goggles with wax and designing a better swimsuit.

   F. Incorrect. The option focuses on Ederle's actions in the moments before her swim (covering her body with grease for insulation) and during her swim (finding her "sphere"), not her overall preparation methods.

   G. Incorrect. The option refers to a way that Ederle's coach helped Ederle keep her strokes in rhythm during her swim. While this option suggests that Ederle and her coach had made thoughtful preparations, it does not address the many other steps that Ederle took to prepare for the swim.

   H. Incorrect. The option does not refer to the series of steps that Ederle took to prepare for her swim, but rather to just one of the efforts made (improving equipment), without acknowledging her sister's contributions.

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33. The question asks how the idea that many people were interested in Ederle's attempt to swim the channel is **mainly** illustrated in the passage.

   A. Incorrect. While paragraph 3 states that "a rival female swimmer was preparing to make her second attempt at the crossing as well," which suggests that Ederle's competitor was interested in Ederle's attempt to swim the channel, this information does not establish that many people were interested in Ederle's attempt.

   B. CORRECT. Paragraph 6 includes the detail that newspaper reporters followed Ederle on a tugboat and "wired dispatches of her progress to shore," which suggests that an audience was waiting for news about Ederle's progress. Paragraph 8 states that when Ederle reached the shore, "the waiting crowd roared, honked their automobile horns, blasted their tugboat whistles, and set off flares that flashed in the sky." Further, paragraph 9 states that when Ederle returned to New York, "thousands of people" attended a parade in her honor. These details describing the celebration of Ederle's feat further illustrate the idea that many people were interested in what she had accomplished.

   C. Incorrect. While paragraph 9 states that "more than 60,000 people credited [Ederle] with motivating them to earn their American Red Cross swimming certificates," this detail describes how Ederle's historic swim influenced people after the fact but does not illustrate the level of public interest during the attempt itself.

   D. Incorrect. Paragraph 6 provides details about how Ederle's "coach, family, and friends" displayed signs, played songs, and "passed her baby bottles of broth" to help her maintain her motivation and stamina. However, these resources do not suggest the idea that people beyond Ederle's immediate support team were interested in her attempt to swim the channel.

34. The question asks how the table **mainly** builds on the information in the passage.

    E. CORRECT. The table supports the information in the passage by showing that people have continued to swim the channel and have significantly improved on past records. The information in the table about records set by those who came after Ederle builds on the idea that "Gertrude Ederle's accomplishment proved to the world that with determination and passion, it was possible for a person to achieve his or her goals" (paragraph 9).

    F. Incorrect. Even though paragraph 9 states that Ederle "inspired [everyday American citizens] to be more active" and the table presents the time for the current female record holder, there is no indication in the passage or in the table that the subsequent female record holders were inspired to swim across the channel by Ederle.

    G. Incorrect. Although paragraph 3 mentions that Ederle had a female rival and the table includes the speed record of another female swimmer, the passage does not provide information about other female swimmers competing with Ederle to set the channel-swim record.

    H. Incorrect. Although paragraph 1 mentions that Ederle "broke the men's record by two hours" and the table allows for comparisons between the earliest speed records and those of the present day, there is no mention in the passage of past, present, or future channel-swim records. The table allows for comparison, but this aspect of the table does not build on the information presented in the passage.

35. The question asks how the details in paragraph 1 convey a central idea of the passage. A specific central idea that needs to be identified in order to correctly answer this question is that reading a digital book "might be inferior" (paragraph 1) to reading a traditional book.

    A. Incorrect. In paragraph 1, the author notes that despite the popularity of e-books, their sales fell in 2015, leading to the author's statement that "print definitely isn't dead." While these statements suggest that readers still purchase and enjoy printed books, sales information between print and e-books is not compared. Therefore, these details do not convey a central idea of the passage.

    B. CORRECT. The author states in paragraph 1 that "according to some research," reading a traditional book "may actually be a better choice for some readers" because "digital reading affects us differently." The author then supports this statement throughout the passage, detailing five advantages that printed books have over e-books. This detail helps convey a central idea of the passage.

    C. Incorrect. In paragraph 1, the author refers to printed books as "traditional books" and the "dead-tree cousins" of e-books. Although these references suggest that printed books rely on natural materials more than e-books do, the author does not provide additional details in the passage to convey this idea. Therefore, this detail does not help convey a central idea of the passage.

    D. Incorrect. Although the author states in paragraph 1 that "traditional books still have their evangelists," the author does not provide additional statistics or details in the passage to convey the idea that some people recommend buying printed books over e-books. Therefore, this detail does not help convey a central idea of the passage.

36. The question asks which evidence from the passage **best** supports the claim in paragraph 1 that "print definitely isn't dead."

    E. CORRECT. In paragraph 5, the author points out that "while e-book textbooks are often cheaper (and easier to carry) than traditional door-stop textbooks, college students often don't prefer them." The author adds that "in some surveys of college kids, the majority of students have reported preferring print books." As a result, this evidence from the passage supports the claim in paragraph 1 that "print definitely isn't dead."

    F. Incorrect. In the passage, the author cites several studies that provide evidence that younger students "who read on iPads had lower reading comprehension than when they read traditional printed books" (paragraph 2). While this evidence supports the benefits of using traditional print material, it does not fully support the claim in paragraph 1 that "print definitely isn't dead."

    G. Incorrect. Although the main idea of paragraph 6 is supported by the 2014 study that showed that "people who used e-readers with LED screens at night slept worse and were more tired the next day," this detail does not support the claim in paragraph 1 that "print definitely isn't dead."

    H. Incorrect. The author states in paragraph 6 that "staring at a lit screen can be tiring for the eyes and the brain" and that "reading digitally required a higher cognitive workload." Although these details illustrate how using e-readers can have negative physical and mental effects, they do not support the claim in paragraph 1 that "print definitely isn't dead."

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37. The question asks which sentence from the passage suggests that people in the future will likely choose e-books over print books.

    A. Incorrect. While this sentence from paragraph 2 implies high engagement with the interactive features of e-books, it does not provide explicit evidence indicating that engagement with e-books is a reason for choosing them over print books.

    B. Incorrect. While this sentence from paragraph 2 highlights some of the benefits of e-books, such as the potential to "enhance comprehension," those benefits are not explicitly linked to readers choosing e-books over print books.

    C. Incorrect. This sentence from paragraph 3 provides evidence that shows both benefits and drawbacks of reading e-books, including higher engagement but a decreased ability to recall details. Therefore, the sentence does not clarify why readers would choose e-books over print books.

    D. CORRECT. In this sentence from paragraph 5, the author cites a 2012 study that found that over 50 percent of 8- to 16-year-olds "reported preferring screen reading." Since this specific age group will one day influence the future of reading and the results of the study point to a significant percentage preferring screen reading, this sentence provides compelling evidence for what readers will prefer in the future.

38. The question asks for an explanation of the role of paragraph 7 in the overall structure of the passage.

E. Incorrect. The purpose of paragraphs 2–6 is to present reasons physical books might be better than e-books, and paragraph 7 offers summarizing "take-away" advice based on those reasons. As a result, it may seem as though the author's purpose for writing the entire passage has shifted. However, the author's advice in paragraph 7, that readers who want to learn from reading "might want to go for a physical book," makes it clear that paragraph 7, like paragraphs 2–6, continues to serve the same purpose for the passage that the writer expresses in paragraph 1: to inform readers that printed books "may actually be a better choice for some readers" than e-books.

F. Incorrect. In paragraph 7, the author does offer the advice that readers who want to absorb material "might want to go for a physical book" rather than an e-book. Even though the author makes the statement favoring physical books for those who want to learn from their reading, the author is not sharing a personal opinion. Instead, the author offers the advice as a summary of the information presented in paragraphs 2–6, which explore various studies about the advantages of physical books over e-books. Furthermore, the idea that physical books are sometimes a better option is not introduced for the first time in paragraph 7. Instead, it is introduced early in the passage, when the author states in paragraph 1 that physical books "may actually be a better choice for some readers."

G. Incorrect. Paragraph 7 presents a clear shift in style and content from paragraphs 2–6. Paragraphs 2–6 are each preceded by a heading stating a reason physical books might be a better choice than e-books, and each paragraph provides research evidence. Paragraph 7 shifts to stating a "take-away message"—the author's advice—which is based on the reasons in paragraphs 2–6. Paragraph 7's different style and content do not, however, signal a change in the author's position. Instead, the author's advice in paragraph 7 ("if you're really trying to absorb material, you might want to go for a physical book") actually reinforces the position first introduced in paragraph 1 that physical books "may actually be a better choice for some readers."

H. CORRECT. The author uses paragraphs 2–6 to present "five ways e-books might be inferior" (paragraph 1) to physical books. Each of paragraphs 2–6 presents one reason for the inferiority of e-books, based on a scientific study. Paragraph 7 indicates a shift because it describes neither a reason e-books might be inferior nor a scientific study. Instead, it presents personal commentary: the "take-away," or conclusion, the author draws from the studies and evidence presented in paragraphs 2–6. That commentary consists of the author's own practical advice to readers who want to retain information that they read ("you might want to go for a physical book") and to those who are "going to be up all night studying" ("turn off the backlight").

39. The question asks which sentence from the passage **best** reveals the author's point of view about e-books.

A. **CORRECT.** The sentence from paragraph 1 best reveals the author's point of view because it introduces the author's argument that "e-books might be inferior," which is illustrated throughout the text.

B. Incorrect. The sentence from paragraph 5 provides a small detail about college students preferring traditional books over e-books despite the fact that e-books may seem ideal by being "cheaper (and easier to carry)." This statement supports one point made in the text but not the author's broader point of view about e-books in general.

C. Incorrect. In the second sentence from paragraph 8, the author discusses answers to why "all this may not mean that reading on a Kindle is really going to melt your brain" and compares reading on a Kindle with reading on a computer to explain how they are different. The sentence focuses on the experiences with using two types of e-book devices rather than on the author's broader opinion about e-books.

D. Incorrect. In the last sentence from paragraph 8, the author uses the previous comparison between reading on a Kindle and reading on a computer to illustrate the differences between "playing with an interactive e-book on an iPad" and using "a simpler e-book device that only presents the text" and limits distractions. However, similar to the sentence in Option C, this sentence focuses on the experiences of using two types of e-book devices rather than on the author's broader point of view about e-books.

40. The question asks how the findings from the studies described in paragraph 6 are important to the author's observations in paragraphs 7 and 8.

E. Incorrect. The evidence from the studies mentioned in paragraph 6 is not substantially supported by the personal opinions the author shares in paragraph 7 ("And if you're going to be up all night studying, turn off the backlight") or in paragraph 8 ("melt your brain" and "digital distractions").

F. **CORRECT.** In paragraph 6, the author cites studies from 2005 and 2014 that found that LED screens can "disrupt sleep patterns" and that "people who used e-readers with LED screens at night slept worse and were more tired the next day." Then, in paragraph 7, the author suggests that "if you're going to be up all night studying, turn off the backlight," and in paragraph 8, the author explains some differences between reading e-books on various devices. This information is not based on a personal opinion; instead, it is based on practical conclusions drawn from scientific evidence.

G. Incorrect. In paragraph 6, the author cites a 2005 study in which researchers found that "reading digitally required a higher cognitive workload than reading on paper." Then, in paragraph 8, the author concludes that "reading an e-book on a computer is a much different experience than reading on a Kindle, which is specifically designed for consuming books." Although the findings in paragraph 6 are important, they do not highlight the information presented by the author that digital reading experiences vary based on the reader and the device.

H. Incorrect. The author states in paragraph 8 that "reading an e-book on a computer is a much different experience than reading on a Kindle" and mentions how the same thing is true for "an interactive e-book on an iPad" compared with an e-book on "a simpler e-book device." Readers may conclude that this statement is meant to indicate the author's belief that more studies on more types of devices are needed. However, the author does not state or imply this belief in the passage.

41. The question asks which evidence in the passage is **most** relevant to the author's claim that "our expectations of e-book reading . . . might affect how we approach the text" (paragraph 9).

   A. CORRECT. According to information in the passage, "kids sometimes skipped text in favor of interactive features" (paragraph 2) and they "remembered fewer narrative details" (paragraph 3). Additionally, a study found that "participants didn't regulate their study time with digital books like they did with paper texts, leading to worse performances" (paragraph 9). This information directly demonstrates the author's claim that expectations of e-book reading might be affected by how people approach the text.

   B. Incorrect. In paragraph 3, the author states that e-books may be physically engaging, but they are also "distracting," and readers who used them "remembered fewer narrative details." While this evidence is important in helping readers understand why children who read e-books may comprehend less information than children who read print text, the evidence does not as strongly relate to the author's claim as the idea in the correct answer does.

   C. Incorrect. The author states that one "study of adults also found that e-books can be hard to absorb" (paragraph 4) and that "if you're really trying to absorb material, you might want to go for a physical book" (paragraph 7). Although the evidence presented here provides support for the idea that retaining information from an e-book is more difficult than from a print book, it does not as strongly relate to the author's claim as the idea in the correct answer does.

   D. Incorrect. The author points out in paragraph 4 that adults "who read the story on a Kindle performed worse on the chronology test than the book readers." Although this evidence shows how well adults can recall a series of events read in an e-book versus how well adults can recall a series of events read in a print book, the evidence does not as strongly relate to the author's claim as the idea in the correct answer does.

42. The question asks which sentence is the **best** summary of the research into the effects of e-book reading.

E. Incorrect. In paragraph 5, the author notes that "college students often don't prefer" e-book textbooks but that more than half the children in a study reported "preferring screen reading." Paragraph 3 describes a study that showed that " 'enhanced' " e-books might be distracting for young children. Therefore, this sentence is not the best summary, because it overstates the opinions of college students and implies that college students are distracted by interactive features, which is not discussed in the text.

F. Incorrect. According to the information in paragraph 3, children who read " 'enhanced' " e-books "remembered fewer narrative details than those who read print books or basic e-books." A study conducted with a group of tenth graders showed that these students "remembered more about texts if they read them in print rather than on a computer screen" (paragraph 4). Although the author points out in paragraph 2 that "some interactive features in e-books are designed to enhance comprehension," a study found that " 'enhanced' e-books might be distracting" (paragraph 3). Therefore, this sentence does not provide the best summary of the research about e-book reading, because the author does not show that e-books aid in reading comprehension.

G. CORRECT. The author states in paragraph 2 that studies found that "students who read on iPads had lower reading comprehension than when they read traditional printed books" and that "e-books can be detrimental to the practice of reading itself." In paragraph 3, the author also points out that a study found that " 'enhanced' e-books might be distracting" and that children "remembered fewer narrative details than those who read print books or basic e-books." Finally, in paragraph 6, the author states that "staring at a lit screen can be tiring for the eyes and the brain" and that "a 2005 study from Sweden found that reading digitally required a higher cognitive workload than reading on paper." Therefore, this sentence provides the best summary of the research about e-book reading, because it includes accurate information about the results of the studies discussed in the text.

H. Incorrect. In paragraph 2, the author does point out that "researchers noted that some interactive features in e-books are designed to enhance comprehension, and that those might be more helpful than game-type interactive graphics." The author also explains in paragraph 3 how children "were more engaged with [e-books] physically." But because this sentence does not include important details about reading comprehension or the physical toll of e-book reading on readers, it does not provide the best summary of the research about e-book reading.

43. The question asks what idea the phrase "the butterflies of the sea" in paragraph 3 conveys.

    A. Incorrect. While the narrator does say that they "taste so lousy they don't need camouflage to survive" (paragraph 3), the phrase explains that their bright appearance poses no threat to their lives.

    B. **CORRECT.** The narrator describes the vibrant colors of the nudibranch in paragraph 2. Then in paragraph 3, the narrator says that "their beauty is so startling." The nudibranchs are colorful and unique, just as many butterflies are.

    C. Incorrect. The narrator describes the distinct appearance of the nudibranch but does not suggest that nudibranchs struggle to adapt to their environment because of this trait.

    D. Incorrect. In paragraph 2, the narrator states, "I'd handled them at aquariums but never in the wild, and I'd never even seen a photo of one this stunning." Although this suggests that the narrator has rarely encountered a nudibranch in the wild, it does not suggest that they are rare in the wild in general.

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44. The question asks for an explanation of how selected sentences from paragraph 4 contribute to the overall structure of the excerpt.

    E. Incorrect. These sentences set a tense and mysterious tone for what is about to happen in the excerpt, but they do not introduce the creature the narrator discovers.

    F. Incorrect. While the narrator reveals that he is familiar with the terrain ("I knew exactly what the bars looked like in the moonlight"), this does not show the narrator recalling the past or reflecting on the present; it demonstrates the narrator's knowledge of the mudflats.

    G. Incorrect. These sentences reveal the narrator's curiosity, which is his prime motivation for venturing out to the mudflats, and his familiarity with the terrain shows that at this point, he does not feel afraid.

    H. **CORRECT.** The narrator creates a feeling of mystery and suspense with language that shows how the situation is unknown. Phrases such as "I couldn't resist" and "I'm not sure why" reveal the narrator's curiosity, as well as the tension of feeling drawn to explore the mudflats in the moonlight.

45. The question asks what the narrator's actions in paragraph 5 reveal about him.

A. Incorrect. The paragraph begins with the narrator wondering "if a whale was stranded again" because of one that had gotten stuck before and had "made similar noises." However, the narrator explains that he "looked for a hulking silhouette but couldn't find one" before he "went toward what [he] thought [he'd] heard," so readers can conclude that he continues to walk through the dangerous mudflats not because he expects to find a whale but because he is curious to find out what made the noise.

B. Incorrect. The fact that the narrator knows about a whale that was stranded on the mudflats "two summers prior" indicates that he is familiar with the area, and he does mention that he has some knowledge of the mudflats. However, in the paragraph, he reveals that his knowledge is of the dangers there: "I knew the flats well enough to know I could get stuck just about anywhere." He also explains that as he moves, he avoids "stepping into the mud until [he] had to." The fact that he acknowledges the danger and tries to avoid it indicates that he is cautious rather than confident.

C. Incorrect. In the paragraph, the narrator's recollection that even though he could not see the silhouette of a whale, "still, [he] went toward what [he] thought [he'd] heard" might make him seem unconcerned about getting stuck. However, even as he continues, he moves carefully, avoiding "stepping into the mud until [he] had to" because he knows the mudflats "well enough to know [he] could get stuck just about anywhere."

D. **CORRECT.** In the paragraph, the narrator describes the dangers of walking on the mudflats by stating that he "knew the flats well enough to know [he] could get stuck just about anywhere," but he continues walking toward the sound. Despite knowing the dangers, he still "went toward what [he] thought [he'd] heard," and this shows that he is determined to find out what made the sound.

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46. The question asks how the setting affects the plot of the excerpt.

E. **CORRECT.** In paragraph 4, the narrator says that it is an hour before sunrise. It is difficult to see because the mudflats are dark, so the narrator, while familiar with the terrain of the mudflats, is cautious.

F. Incorrect. While the terrain of the mudflats is challenging because of the "wet, flattened dunes" (paragraph 4), the narrator is familiar with the terrain and moves carefully. In addition, the excerpt shows that the narrator explores the mudflats for curiosity and enjoyment, not work.

G. Incorrect. In paragraph 1, the narrator watches the water "hesitating at its apex" and "patiently waiting for the gravitational gears to shift." This illustrates that the narrator is already familiar with the changes in his surroundings, that the tide is slow to move in, and that he can move carefully through the mudflats without the threat of rising water.

H. Incorrect. While the narrator is on the mudflats for the entire excerpt, the phrase "eyes relaxed" in paragraph 1 indicates that the narrator feels comfortable there. The narrator does not show fear until paragraph 6, when a growing fear about the unknown creature arises.

47. The question asks which sentence from paragraph 5 supports the idea that the narrator is taking a risk.

   A. Incorrect. In this sentence, the narrator is describing the exhale of a creature and his concern that the sound might be coming from a whale in danger. At no point does the narrator suggest that this is a dangerous situation.

   B. Incorrect. This sentence describes a "hulking silhouette" because the narrator is searching for a whale that might be stranded. This expression refers to the size of the whale and not to any danger the narrator might face.

   C. Incorrect. The narrator's words "no more sounds" are used to illustrate his listening for what may be a whale. At this point, the narrator is still concerned about the possibility that a whale may be stranded, not the possibility of being in danger.

   D. **CORRECT.** The idea that the narrator could become stuck in the mud of the flats means that the surroundings pose some danger or difficulty.

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48. The question asks how the narrator's actions, as described in the sentence from paragraph 6, develop a central idea of the excerpt.

   E. Incorrect. The sentence highlights the narrator's concern about sea life and the creatures living within the flats. However, these ideas do not develop what is being described in the excerpt.

   F. **CORRECT.** The narrator "kept stepping toward the one sound," indicating a sense of curiosity. However, the words "a growing part of me hoping I'd find nothing" suggest a rising fear or concern. Ultimately, the narrator's curiosity outweighs his growing fear and is a central idea in the excerpt, as shown by the fact that the narrator does not run away when finally encountering the creature.

   G. Incorrect. While the narrator's descriptions of the nudibranch and other sea life demonstrate a knowledge of these creatures, as well as a desire to discover more in the mudflats, the knowledge the narrator exhibits is not what is being illustrated in the excerpt.

   H. Incorrect. The excerpt does describe the narrator's enjoyment at seeing a nudibranch in paragraph 2, and in paragraph 4, the narrator clearly states that there is an abundance of life in the seemingly barren mudflats, including "hearty clams, worms and tiny creatures that flourish in mud." However, the sentence demonstrates the narrator's curiosity in spite of fear, not an eagerness about or fascination with the mudflats.

49. The question asks what the sensory language in the sentences from paragraph 8 conveys about the narrator.

   A. Incorrect. While the narrator does not leave the mudflats and is curious about what has been found, the main emotions described in paragraph 8 are fear and confusion as the narrator tries to comprehend the size of the animal.

   B. Incorrect. The language focuses on the narrator's inability to organize what he sees into useful thoughts and conclusions, and while the narrator feels fear in paragraph 8—"I was afraid" and "I would have run"—the narrator refuses to leave the mudflats out of curiosity.

   C. **CORRECT.** The phrase "spangled my vision" illustrates that the narrator cannot fully recognize what has appeared on the mudflats. The sight is so amazing, the narrator is trying to "fuse" together "fragments" and "pieces" because seeing the creature has created so much emotion in the narrator that he feels confused.

   D. Incorrect. While the narrator is feeling some fear, as expressed in paragraph 8, the phrases actually indicate that the narrator's amazement causes him to struggle to take in the view of the creature before him.

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50. The question asks how the author develops the narrator's point of view when the narrator sees the creature.

   E. Incorrect. The author's description of how the narrator moves toward the creature has to do with the terrain and the narrator's sense of awe. The narrator's perspective is not represented through how he approaches the creature; it is presented later in the excerpt when the narrator is studying the creature.

   F. Incorrect. In this excerpt, while the narrator does discuss other large animals (minke whale, paragraph 5; octopi, paragraph 7) that have appeared on the mudflats, these are examples to show the variety of animal life that can be discovered on the mudflats, not rivals of the creature discovered at the end of the excerpt.

   G. **CORRECT.** In paragraph 7, the narrator describes the largest octopi in the world and then states that this creature is "more than an octopus." The narrator then states that it is "impossible to hear anything over the blood in my ears," and in paragraph 8, he describes the creature's body in detail, as well as his growing fear and amazement as he begins to realize what the creature really is.

   H. Incorrect. While the narrator observes that the creature's eye is as large as a hubcap in paragraph 9, a comparison to an entire car is never made. This detail is for description but does not give the narrator's point of view.

51. The question asks which sentence from the excerpt supports the conclusion that Elton's "militaristic 'invasion' metaphor" (paragraph 1) has influenced scientific understanding of non-native species.

    A. CORRECT. This sentence shows that of the 2,000 ecologists Olden polled, many said they think it is right to "immediately eradicate" non-native species plants even if they are demonstrably harmless in their new environment. The response of these ecologists supports that Elton's metaphor discussed in paragraph 1 has influenced scientific understanding.

    B. Incorrect. Rather than supporting the idea that the militaristic metaphor has influenced scientists, this sentence shows that conservationists, at any rate, are happy to let non-native species thrive wherever they can, given global warming.

    C. Incorrect. While this sentence does refer to efforts to eradicate a non-native species, the main point of it is that these efforts ended up harming a native species (the clapper rail shorebird).

    D. Incorrect. In contrast to supporting the idea that the militaristic invasion metaphor has influenced scientific understanding of non-native species, this sentence puts forth the bold idea of treating non-native species as something to be welcomed.

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52. The question asks which detail provides the **most** relevant support for the claim that "climate change is making it harder even to decide who the invaders are" (paragraph 7).

    E. CORRECT. The fact that many plants and animals have no choice but to seek out "climate conditions they can tolerate" (paragraph 8) makes it much harder to decide whether to call these species invaders.

    F. Incorrect. The fact that many domestic crops are non-native species has nothing to do with climate change affecting our discernment of which species are invaders.

    G. Incorrect. The description in paragraph 11 of native and non-native species interacting never suggests that climate change is a factor in these interactions and never suggests that climate change muddies our understanding of which species is native and which is non-native.

    H. Incorrect. While the example of Mark Davis so thoroughly changing his beliefs about non-native species is a powerful one, the role that climate change might have played in this reversal is never discussed.

53. The question asks what the author's use of cause and effect in paragraphs 10–11 **mainly** emphasizes.

A. Incorrect. The examples of cause and effect discussed in paragraphs 10–11, such as the spartina grass helping the clapper rail and the Japanese white-eye bird pollinating Hawaiian flowers, are all instances in which non-native species have helped their new environments.

B. Incorrect. While paragraph 10 does mention that efforts to eradicate the non-native spartina grass hurt the native clapper rail shorebird, the main emphasis in both paragraphs 10–11 is on the fact that certain non-native species have helped native species.

C. **CORRECT.** Paragraphs 10–11 focus on several examples of non-native species that have helped endangered native species flourish: non-native spartina grass providing "important habitat for the endangered California clapper rail" (paragraph 10), non-native tamarisk shrubs providing nesting places for the endangered southwestern willow flycatcher (paragraph 11), and the non-native Japanese white-eye bird pollinating Hawaiian flowers (paragraph 11).

D. Incorrect. While paragraphs 10–11 describe several interactions between non-native and native species, they never discuss monitoring these interactions.

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54. The question asks which sentence from the excerpt supports the idea that some species are able to adjust to change.

E. Incorrect. This sentence discusses native gardens, featuring native species, which presumably have no need to adjust to change.

F. **CORRECT.** This sentence demonstrates that some species—in this case, Hawaiian flowers—have adapted well to change: the flowers thrive thanks to new pollinators.

G. Incorrect. This sentence focuses on the importance of "preventing extinctions and preserving biodiversity" but does not address the fact that being able to adjust to change is one thing that helps achieve those goals.

H. Incorrect. Far from demonstrating that some species can adjust to change, this sentence discusses species that were not adjusting to the loss of large tortoises and were therefore "on the decline."

55. The question asks how the details in the section "A Good Thing, Not the Only Thing" convey a central idea of the excerpt.

A. Incorrect. While paragraph 15 does discuss introducing non-native Aldabra tortoises to replace native tortoises that no longer exist, the real point of this section is to show that non-native species can sometimes help support native species that still exist but are struggling. In this case, the Aldabra tortoises are now moving seeds around for the fruiting plants on the islands where the tortoises have been introduced.

B. CORRECT. This section discusses situations in which non-native species should be kept (as in the example of the Aldabra tortoises in paragraph 15) but also asserts that "most of the time . . . conserving species still means focusing on supporting them in their historical habitats, planting natives and removing non-natives" (paragraph 16). This section makes the point that the issue of non-natives needs to be considered on a case-by-case basis.

C. Incorrect. This section does not claim that non-native species always or even usually enhance biodiversity; rather, it states that "in some cases we can best serve biodiversity by leaving the non-natives alone or even—brace yourself, now—introducing them on purpose" (paragraph 14), later adding that "most of the time . . . conserving species still means focusing on supporting them in their historical habitats, planting natives and removing non-natives" (paragraph 16).

D. Incorrect. While the section happens to give a good example of a habitat that supports both native and non-native species (the islands of Mauritius), it never suggests that being able to do so is a defining characteristic of healthy habitats.

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56. This question asks how climate change has **mainly** affected efforts to manage invasive species.

E. Incorrect. While ecologists are now arguing for some non-native species to be left alone (paragraph 13), they are arguing specifically on behalf of "well-behaved" non-native species (paragraph 12), not non-native species in general.

F. Incorrect. While paragraph 10 describes how removing a non-native species negatively affected a native species, the excerpt never discusses the idea that attempts to eliminate non-native species might have damaged the environment.

G. Incorrect. While the excerpt refers to climate change causing plants and animals to move to more tolerable environments (paragraph 8), it does not specifically discuss ways to ensure that the arrival of these non-native species does not harm native species.

H. CORRECT. As paragraph 8 says, "plants and animals are already moving toward the poles" because of climate change, and ecologists recognize that those species need to do so to adapt "to the warmer future we're creating."

57. The question asks how the chart provides additional support for a central idea of the excerpt.

    A. Incorrect. The chart indicates that the public tends to become aware of non-native species once eradication is "unlikely or impossible," not strictly impossible. Furthermore, this idea is not a central idea of the excerpt.

    B. CORRECT. The chart strongly suggests that once "rapid increase in populations" of non-native species has occurred, eradication will be "unlikely or impossible."

    C. Incorrect. While the chart does show that non-native species can eventually be impossible to eradicate, it never addresses the issue of how the non-native species might be destructive to their new environments.

    D. Incorrect. The chart shows how non-native species become harder and harder to remove as their population grows but does not explain how any conservation groups have approached their removal.

Form A

Sample Test - Mathematics Explanations of Correct Answers

58. $(^-0.4)$

Subtracting a negative number is the same as adding a positive number. Rewrite the expression to simplify:

$^-3.8 + 2.3 - (^-1.1)$

$^-3.8 + 2.3 + 1.1$

$^-3.8 + 3.4$

$^-0.4$

59. **(150)** Angle M and angle R are supplementary, so the sum of the angles is 180°.

Let m equal the measure of angle M, and let r equal the measure of angle R.

$r + m = 180$

The measure of angle R is 5 times the measure of angle M.

$r = 5m$

$5m + m = 180$

$6m = 180$

$m = \dfrac{180}{6} = 30$

$r = 5m = 5(30) = 150$

Therefore, the measure of angle R is 150°.

60. **(2.5)** Set up a proportion to solve:

$$\frac{\frac{3}{16} \text{ apple}}{\frac{3}{40} \text{ cranberry}} = \frac{x \text{ apple}}{1 \text{ cranberry}}$$

$$\frac{3}{16} \times \frac{40}{3} = x$$

$$\frac{40}{16} = x$$

$$2.5 = x$$

61. **(5.5)** The lawn grows $2\frac{1}{8}$ inches every 2 weeks. Find the total number of inches it grows in 8 weeks.

$$8 \div 2 = 4$$

$$4 \times 2\frac{1}{8}$$

$$4 \times 2.125 = 8.5$$

The lawn was 4 inches tall at the beginning of the season.

$$8.5 + 4 = 12.5$$

Mr. Chen mows his lawn every 2 weeks and cuts off the top $1\frac{3}{4}$ inches. Find the total number of inches that are cut off in 8 weeks.

$$8 \div 2 = 4$$

$$4 \times 1\frac{3}{4}$$

$$4 \times 1.75 = 7$$

The height after 8 weeks is the total number of inches grown minus the total number of inches cut off.

$$12.5 - 7 = 5.5$$

62. **(1)** Since 110 families were surveyed, the median will have 55 values less than or equal to it, and 55 values greater than or equal to it.

If the values in the table were listed in order, they would look like this:

$$\underbrace{0,...,0}_{45}, \underbrace{1,...,1}_{32}, \underbrace{2,...,2}_{19}, \underbrace{3,...,3}_{8}, \underbrace{4,...,4}_{6}$$

The first row of the table indicates that 45 families had 0 children.

The second row of the table indicates that 32 families had 1 child.

So 77 families had either 0 children or 1 child, and 45 families had 0 children.

Since 55 is between 45 and 77, the median must be a value in the second row of the table.

So the median is 1.

63. **(A)** First, set up a proportion to determine x, the number of goats Mr. King has.

$$\frac{King}{Jones} = \frac{x}{550}$$

$$\frac{x}{550} = \frac{100\%}{100\% + 10\%}$$

Then solve the proportion for x.

$$\frac{x}{550} = \frac{100\%}{100\% + 10\%}$$

$$550(100\%) = x(100\% + 10\%)$$

$$550(100\%) = x(110\%)$$

$$550(1) = x(1.10)$$

$$550 = 1.10x$$

$$550 \div 1.10 = (1.10 \div 1.10)x$$

$$500 = x$$

Finally, determine the difference between the number of goats Mr. Jones has, 550, and the number of goats Mr. King has, 500.

$$550 - 500 = 50$$

Mr. Jones has 50 more goats than Mr. King.

64. **(G)** Use properties of equations to determine the missing expression:

$$\frac{2y}{x} - \frac{y}{2x} = \frac{\Box}{2x}$$

$$\frac{2}{2} \cdot \frac{2y}{x} - \frac{y}{2x} = \frac{\Box}{2x}$$

$$\frac{4y}{2x} - \frac{y}{2x} = \frac{\Box}{2x}$$

$$\frac{4y - y}{2x} = \frac{\Box}{2x}$$

$$\frac{3y}{2x} = \frac{\Box}{2x}$$

The missing expression is $3y$.

65. **(B)** The area of square PQRS is 4 square centimeters. So

$$s^2 = 4$$
$$\sqrt{s^2} = \sqrt{4}$$
$$s = 2 \text{ cm}$$

Sides PS and RS are each a radius of the circle. So the radius of the circle is 2 cm.

The shaded region is $\frac{1}{4}$ of the circle. The area of a circle is $A = \pi r^2$. So the area of the shaded region, in square centimeters, is

$$\frac{1}{4}A = \frac{1}{4}\pi r^2 =$$
$$\frac{1}{4}\pi(2^2) =$$
$$\frac{1}{4}\pi(4) = \pi$$

66. **(H)** Consider the case where $m = 1$.

$$n - m = 66$$
$$n - 1 = 66$$
$$n - 1 + 1 = 66 + 1$$
$$n = 67$$

The list of integers from 1 to 67 contains 67 numbers.

67. (**A**)

$$\frac{\left(\frac{39(x\ -\ 3)}{3}\right)\ +\ 39}{13}$$

Divide the first 39 by 3.

$$\frac{13(x\ -\ 3)\ +\ 39}{13}$$

Distribute 13 through $(x\ -\ 3)$.

$$\frac{13x\ -\ 39\ +\ 39}{13}$$

In the numerator, the terms $^-39$ and 39 cancel out.

$$\frac{13x}{13}$$

Finally, divide the numerator and denominator by 13 to get x.

68. (**G**) Jar 1 starts with $\frac{1}{2}$ cup of water. If $\frac{1}{4}$ of its water is poured into Jar 2, then the amount of water added to Jar 2

is $\frac{1}{2} \times \frac{1}{4} = \frac{1}{8}$ cup.

Jar 2 starts with $\frac{1}{2}$ cup of water. If $\frac{1}{8}$ cup of water is added to it, then the amount of water now in Jar 2

is $\frac{1}{2} + \frac{1}{8} = \frac{4}{8} + \frac{1}{8} = \frac{5}{8}$ cup.

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69. (**D**) $0.01 = \frac{1}{100}$, which is between $\frac{1}{101}$ and $\frac{1}{99}$.

Therefore, $n\ +\ 2\ =\ 101$ and $n\ =\ 99$.

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70. (**H**) 72% of the people polled answered yes, so 28% of the people did not answer yes.

Therefore, 56 people is 28% of the total, x.Skipping malformed tag: mfrac

$$\frac{56}{x} = \frac{28}{100}$$
$$\frac{56}{x} = \frac{7}{25}$$
$$56(25)\ =\ 7x$$
$$\frac{56(25)}{7}\ =\ x$$
$$8(25)\ =\ x$$
$$200\ =\ x$$

71. **(A)** The scale is 1 inch = 20 feet, and the length in the scale drawing is 2 inches, so the actual length is 40 feet.

$960 \div 40 = 24$

The actual width is 24 feet.

Let x equal the width of the scale drawing, in inches.

$$\frac{1 \text{ in.}}{20 \text{ ft}} = \frac{x \text{ in.}}{24 \text{ ft}}$$
$$x = \frac{24}{20} = 1\frac{1}{5}$$

72. **(H)** There are five odd numbers in the range 1 through 9: 1, 3, 5, 7, and 9.

So the proportion of odd numbers in the range 1 through 9 is $\frac{5}{9}$.

The expected number of odd values in the sequence from the computer program is

$$300 \cdot \frac{5}{9} = 166.\overline{66}.$$

So the best prediction for the number of odd numbers in the sequence is 167.

73. **(D)** Let m equal the miles driven during Dalia's rental. The total cost, c, can be expressed as an equation.

$$c = 40 + m$$

Dalia spent a total of $60, which included a 20% off coupon. Find the cost before the coupon by dividing the final cost ($60) by the percentage paid (80%):

$$\frac{60}{80\%} = \frac{60}{0.80} = 75$$

Use $75 as the total cost to find m.

$$40 + m = 75$$
$$m = 35$$

Dalia drove 35 miles.

74. **(H)** Start with a proportion to determine the total number of red candies in the bag:

$$\frac{2}{5} = \frac{r}{25}$$
$$\frac{2}{5}(25) = r$$
$$10 = r$$

There are currently 10 red candies out of 25 candies in the bag. After 5 red candies are removed, there would be 5 red candies left in the bag and 20 total candies.

The probability of randomly drawing a red candy would then be $\frac{5}{20} = \frac{1}{4}$.

75. **(C)** First, write an equation based on the rule described in the item. Let x be the previous number in the sequence and y be the number in the sequence. The ninth number in the sequence is 63.

$$2x + 1 = y$$

Determine the 10th number in the sequence, y, by making $x = 63$ and solving:

$$2(63) + 1 = y$$
$$126 + 1 = y$$
$$127 = y$$

Determine the 8th number in the sequence, x, by making $y = 63$ and solving:

$$2x + 1 = 63$$

Subtract one from both sides of the equation.

$$2x + (1 - 1) = 63 - 1$$
$$2x = 62$$
$$\frac{2x}{2} = \frac{62}{2}$$
$$x = 31$$

Determine the 7th number in the sequence, x, by making $y = 31$ and solving:

$$2x + 1 = 31$$
$$2x + (1 - 1 = 31 - 1)$$
$$2x = 30$$
$$\frac{2x}{2} = \frac{30}{2}$$
$$x = 15$$

Subtract the 7th number in the sequence from the 10th number:

$$127 - 15 = 112$$

The difference is 112.

76. **(G)** The highest and lowest scores are discarded: 8.2 and 9.0.

To find the mean, add the remaining scores and then divide that sum by the total number of remaining scores.

8.9 + 8.5 + 8.4 + 8.6 + 8.8 = 43.2

43.2 ÷ 5 = 8.64

77. **(A)** The original piece of wood is $4\frac{1}{2}$ feet long.

The shorter piece is x feet long, and it must be less than half the length of the original piece of wood.

Since half of $4\frac{1}{2}$ is $2\frac{1}{4}$, it follows that $x < 2\frac{1}{4}$.

The shorter piece of wood cannot be 0 feet long, so it follows that $0 < x$.

This gives the compound inequality $0 < x < 2\frac{1}{4}$.

78. **(F)** The area of the shaded region, in square units, is the area of the triangle created by the shaded and unshaded regions minus the area of the triangle created by the unshaded region.

The area of the triangle created by the shaded and unshaded regions is 200 square units.

$$\frac{1}{2}bh = \frac{1}{2}(20)(20) = \frac{1}{2}(400) = 200$$

The area of the triangle created by the unshaded region is 75 square units.

$$\frac{1}{2}bh = \frac{1}{2}(10)(15) = \frac{1}{2}(150) = 75$$

Subtract to find the area of the shaded region.

$$200 - 75 = 125$$

79. **(A)** The highest temperature was 86° F.

$$F = \frac{9}{5}C + 32$$
$$86 = \frac{9}{5}C + 32$$

Subtract 32 from both sides of the equation:

$$86 - 32 = \frac{9}{5}C = 32$$
$$54 = \frac{9}{5}C$$

Multiply both sides of the equation by $\frac{5}{9}$:

$$54\left(\frac{5}{9}\right) = \left(\frac{5}{9}\right)\left(\frac{9}{5}C\right)$$
$$30 = C$$

The lowest temperature was 68° F.

$$F = \frac{9}{5}C + 32$$
$$68 = \frac{9}{5}C + 32$$
$$68 - 32 = \frac{9}{5}C$$
$$36 = \frac{9}{5}C$$
$$\left(\frac{5}{9}\right)(36) = C$$
$$20 = C$$

The difference, in degrees Celsius, is 30 minus 20.

$$30 - 20 = 10$$

80. **(F)** If x is odd, then the two even numbers closest to x are $(x - 1)$ and $(x + 1)$. Find the sum of these two expressions:

$$(x - 1) + (x + 1) = 2x$$

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81. **(B)** The question asks for the amount of the public debt per person, so divide the total public debt by the number of people.

$$\frac{3,6000,000,000,000}{250,000,000} =$$

$$\frac{3,600,000,000,000}{250,000,000} =$$

$$\frac{360,000}{25} = 14,400$$

The amount of the public debt per person was about $14,400.

82. **(E)** These facts are given:

- N is the midpoint of $\overline{MQ}$.
- $\overline{MN}$ has a length of x centimeters.
- $\overline{MP}$ has a length of y centimeters.

Use the first two facts to determine that $\overline{MQ}$ has a length of $2x$ centimeters. So ($2x$ - y) can be represented by MQ−MP, which is $\overline{PQ}$.

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83. **(B)** To find the area of a parallelogram, multiply the length of a side by the altitude for that side.

One property of parallelograms is that opposite sides are the same length.

So the bottom side of the parallelogram is 30 feet long and has an altitude of 20 feet.

Therefore, the area of the parallelogram, in square feet, is

$$A = bh = 30 \times 20 = 600.$$

84. **(H)** Let t represent the number of loaves of bread produced on Tuesday.

First, determine the number of loaves of bread produced on Tuesday, t, using the number of loaves produced on Wednesday, $t + 100$, the number produced on Thursday, $t - 50$, and the total number produced on these three days, 230:

$t + t + 100 + t - 50 = 230$
$t + t + t + 100 - 50 = 230$
$3t + 50 = 230$
$3t + (50 - 50 = 230 - 50)$
$3t = 180$
$(3 \div 3)t = 180 \div 3$
$t = 60$

Next, determine the number of loaves of bread produced on Wednesday, $t + 100$, when $t = 60$:

$t + 100 = 60 + 100 = 160$

The number of loaves of bread produced on Wednesday is 160.

85. **(C)** First, find the total number of students who took the quiz.

$9 + 7 + 4 + 5 + 3 = 28$

Multiply each quiz score by the number of students who received that score. Add those products together to find the total number of points scored.

$(60 \times 9) + (70 \times 7) + (80 \times 4) + (90 \times 5) + (100 \times 3) = 2{,}100$

To find the mean quiz score, divide the total number of points by the number of students who took the quiz.

$2{,}100 \div 28 = 75$

86. **(E)** Use the properties of equations to solve the inequality for x.

$x + 4 \geq 3$

Subtract 4 from both sides of the inequality.

$x + 4 - 4 \geq 3 - 4$

$x \geq {}^-1$

The graph of $x \geq {}^-1$ will have a point at $^-1$ and will include all values that are greater than, or to the right of, $^-1$. The greater than or equal sign is used, which indicates that the solution includes $^-1$. So the point at $^-1$ will be solid. Option E is the correct answer.

87. **(A)** The reciprocal of $\frac{1}{4}$ is added to the reciprocal of 3.

$\frac{4}{1} + \frac{1}{3} = \frac{12}{3} + \frac{1}{3} = \frac{13}{3}$

The reciprocal of this sum is $\frac{3}{13}$.

88. **(E)** Nura's poster is square, so all the side lengths are 13 inches. The area, in square inches, is

$$A = s^2 = 13^2 = 169$$

Latrice's poster is square, so all the side lengths are 15 inches.

$$A = 15^2 = 225$$

Subtract to determine the difference between the areas.

$$225 - 169 = 56$$

The difference, in square inches, is 56.

89. **(B)** The unit rate for cups of oats per cup of water can be found by dividing the number of cups of oats by the number of cups of water:

$$\frac{\frac{2}{3}}{3\frac{1}{4}}$$

The denominator can be rewritten as $\frac{13}{4}$.

The quotient $\frac{\frac{2}{3}}{\frac{13}{4}}$ can be rewritten as:

$$\frac{2}{3} \times \frac{4}{13} = \frac{8}{39}.$$

Therefore, the unit rate for cups of oats per cup of water is $\frac{8}{39}$.

90. **(H)** $\left(\dfrac{3}{5} - \dfrac{1}{2}\right)x = \dfrac{1}{4} + \dfrac{2}{3}$

Rewrite with equivalent fractions that have like denominators.

$\left(\dfrac{3 \times 2}{5 \times 2} - \dfrac{1 \times 5}{2 \times 5}\right)x = \dfrac{1 \times 3}{4 \times 3} + \dfrac{2 \times 4}{3 \times 4}$

$\left(\dfrac{6}{10} - \dfrac{5}{10}\right)x = \dfrac{3}{12} + \dfrac{8}{12}$

$\left(\dfrac{1}{10}\right)x - \dfrac{11}{12}$

Multiply both sides of the equation by 10.

$10\left(\dfrac{1}{10}\right)x = 10\left(\dfrac{11}{12}\right)$

$x = \dfrac{110}{12} = \dfrac{55}{6}$

91. **(A)** The increase in sales tax percentage is

7.5% — 7.0% = 0.5%

0.5% of $200 is

$(0.5\%)(200) = (0.005)(200) = 1$

148

92. (F)

$$\left|(-8) - 12 + (-17) - (-31)\right| - \left|24\right|$$

Simplify negatives inside the first absolute value brackets.

$$\left|-8 - 12 - 17 + 31\right| - \left|24\right|$$

Simplify the first absolute value.

$$\left|-6\right| - \left|24\right|$$

Calculate the absolute values.

$$6 - 24$$

Perform the final subtraction.

$$6 - 24 = {}^{-}18$$

93. (B) First, use the information given in the table and properties of equations to determine the value of k:

$$8k + 30 + 30 - 2k + k + 5 = 100$$
$$8k - 2k + k + 30 + 30 + 5 = 100$$
$$7k + 65 = 100$$
$$7k + (65 - 65) = 100 - 65$$
$$7k = 35$$
$$k = 5$$

Then, determine the percentage of cell phones sold that were blue by finding the value of the expression $30 - 2k$ (given in the table), when $k = 5$:

$$30 - 2k = 30 - 2(5) =$$
$$30 - 10 = 20$$

The percentage of cell phones sold that were blue is 20%.

94. (E) First, find the distance between X and Z by adding the distance between X and Y to the distance between Y and Z.

$$1 + 2 = 3$$

Since the distance between X and Z is 3, the midpoint between X and Z is $1\frac{1}{2}$.

The midpoint between X and Z is $1\frac{1}{2}$, and the distance between X and Y is 1. The distance between Y and the midpoint of X and Z is $1\frac{1}{2} - 1 = \frac{1}{2}$.

95. (B) Subtract to determine the amount of the increase.

$$1.35 - 1.25 = 0.10$$

Divide the increase by the original price.

$$0.10 \div 1.25 = 0.08$$

Multiply the quotient by 100 to express the decimal answer as a percent.

$$0.08 \times 100 = 8$$

96. (G) Surface area is found by calculating the area of each side, including the base, and adding them all together.

The base of the pyramid measures 10 inches on each side, so the area of the base is

$$10 \times 10 = 100$$

Each triangular face has a base of 10 inches and a height of 12 inches, so the area of each face is

$$\frac{1}{2} \times 10 \times 12 = 60$$

There are 4 triangular faces (because the square base has 4 edges, each of which will have a triangular face). So the total surface area of the pyramid is the sum of the areas of 4 triangles and 1 square.

$$(4 \times 60) + 100 = 240 + 100$$

So the total surface area is 340 square feet.

97. **(B)** Use the percent increase expression to find the answer:

$$\frac{\text{new price} - \text{original price}}{\text{original price}}$$

$$\frac{6.75 - 6.25}{6.25} = \frac{0.50}{6.25} = 0.08 = 8\%$$

---

98. **(G)** If the mean number of points for the first four games is 7, the total number of points earned in those games is 28.

$$4 \times 7 = 28$$

If the mean number of points for all five games is 8, the total number of points earned is 40.

$$5 \times 8 = 40$$

To find the number of points in the fifth game, find the difference between 40 and 28.

$$40 - 28 = 12$$

99. **(B)** First, find the amount, in dollars, that Lian paid for each orange. There are 4 bags with 8 oranges each.

$$4 \times 8 = 32$$

Divide the total cost by the total number of oranges to get the cost per orange:

$$11.52 \div 32 = 0.36$$

Multiply to find the cost of 42 oranges:

$$0.36 \times 42 = 15.12$$

---

100. **(H)**

$$\frac{3.6}{0.018} \times \left(\frac{1,000}{1,000}\right) = \frac{3,600}{18} = 200$$

101. (C) If 5 gallons of water is added to the tank per minute for 45 minutes, then 5 × 45 = 225 gallons is added to the tank.

The tank started with 75 gallons of water in it. After the 45 minutes, it contains 75 + 225 = 300 gallons, assuming no loss of water.

The tank has a capacity of 500 gallons, and $\frac{300}{500} = 0.6$.

Rewrite decimal 0.6 as a percentage:

$0.6 = \frac{6}{10} = \frac{60}{100} = 60\%$.

102. (H) Each strap requires $1\frac{1}{4}$ yards of ribbon, and ribbon costs $5.00 a yard.

$1\frac{1}{4} \times 5 = \frac{5}{4} \times \frac{5}{1} = \frac{25}{4} = 6.25$, so the ribbon for each strap costs $6.25.

Misha wants to make 2 straps.

6.25 × 2 = 12.50, so the cost of the ribbon for 2 straps is $12.50.

103. (B) The graph represents a proportional relationship, which means the *y*-intercept of the graph is (0, 0).

This means that the point $\left(1, \frac{5}{4}\right)$ represents the unit rate for this situation.

In this situation, *x* represents the number of questions answered correctly, and *y* represents the number of points received.

Therefore, for each question answered correctly, the student receives $\frac{5}{4}$, or $1\frac{1}{4}$, points.

104. (E) In the survey, 45 out of 200 adults reported reading the online version of the *Waskegon Bulletin*, and there are 25,000 adults living in Waskegon. Set up a proportion to find the number of adults who read the online version.

$\frac{45}{200} = \frac{x}{25,000}$

$x = \frac{(45)(25,000)}{200} =$

$(45)(125) = 5,625$

Rounded to the nearest 100, this number is 5,600.

105. (C) There is a proportional relationship between the number of miles traveled, y, and the number of days hiked, x.

$$\frac{y}{x} = \frac{17}{3}$$
$$y = \frac{17}{3}x$$

So the equation $y = \frac{17}{3}x$ describes the relationship.

---

106. (E) The distance from Carolyn's house to the grocery store is $3 + 2\frac{1}{2} = 5\frac{1}{2}$ miles.

Carolyn walked $1\frac{2}{3}$ miles back, so she still had $5\frac{1}{2} - 1\frac{2}{3}$ miles left to walk home.

$$5\frac{1}{2} - 1\frac{2}{3} = \frac{11}{2} - \frac{5}{3}$$
$$\frac{33}{6} - \frac{10}{6} = \frac{23}{6} = 3\frac{5}{6}$$

So Carolyn had $3\frac{5}{6}$ miles left to walk home.

107. (C) Set up a proportion to solve.

$$\frac{1\frac{1}{4} \text{ in.}}{\frac{1}{3} \text{ yr}} = \frac{x \text{ in.}}{1 \text{ yr}}$$
$$1\frac{1}{4} = \frac{1}{3}x$$
$$\frac{5}{4} = \frac{1}{3}x$$
$$\left(\frac{3}{1}\right)\left(\frac{5}{4}\right) = x$$
$$\frac{15}{4} = x$$
$$3\frac{3}{4} = x$$

---

108. (F)

$$3(0.01) - 3(0.1) =$$
$$0.03 - 0.3 = {}^{-}0.27$$

109. (B) Rewrite the mixed numbers so that they all have equivalent denominators.

$$10\frac{1}{2} + \left(-5\frac{1}{3}\right) - \left(-2\frac{3}{4}\right)$$
$$10\frac{6}{12} + \left(-5\frac{4}{12}\right) - \left(-2\frac{9}{12}\right)$$

Subtracting a negative is the same as adding.

$$10\frac{6}{12} - 5\frac{4}{12} + 2\frac{9}{12}$$

Group the whole numbers together and the fractions together.

$$10\frac{6}{12} - 5\frac{4}{12} + 2\frac{9}{12}$$
$$(10 - 5 + 2) + \left(\frac{6}{12} - \frac{4}{12} + \frac{9}{12}\right)$$
$$7\frac{11}{12}$$

110. (G) Find 5% of 350.

$$(5\%)(350) = (0.05)(350) = 17.5$$
$$350 + 17.5 = 367.50$$

111. (B) The probability of the event is 0.05, which equals 5%, which is less than 50%.

Option A:

An event that is likely has a probability over 50%.

Option B:

An event that is unlikely has a probability less than 50% but greater than 0%.

Option C:

An event that is impossible has a 0% probability.

Option D:

An event that is neither likely nor unlikely has a 50% probability.

112. (G) Divide the number of cups of blue paint by the number of cups of red paint to find the constant of proportionality.

$$\frac{1.5}{1} = \frac{6}{4} = 1.5$$

Multiply to find the value of *y*.

$$11 \times 1.5 = 16.5$$

113. (C) To find the midpoint of a segment, subtract the value on the right from the value on the left and then divide by 2. Then add the result to the value on the left of the segment.

Find the midpoint of $\overline{PQ}$:

$1 - (-3) = 4$
$4 \div 2 = 2$
$2 + (-3) = -1$

Find the midpoint of $\overline{QR}$:

$7 - 1 = 6$
$6 \div 2 = 3$
$3 + 1 = 4$

The distance between -1 and 4 on the number line is 5 units.

114. (F) There is a proportional relationship between the cost and the number of cups of ice cream.
Divide the cost by the number of cups of ice cream to find the constant of proportionality.

48 dollars $\div$ 16 cups
$= 3$ dollars per cup
12 dollars $\div$ 4 cups
$= 3$ dollars per cup

The constant is the cost per cup, 3 dollars.

Form A

Sample Test – Answer Key

You can read explanations for each answer online here. If you are in Grade 9, you can find examples of additional types of math content you might see on your test here.

Answer Key for Sample Form A

1. B	14. F	27. C	40. F	53. C	66. H	79. A	92. F	105. C
2. E	15. C	28. H	41. A	54. F	67. A	80. F	93. B	106. E
3. B	16. G	29. C	42. G	55. B	68. G	81. B	94. E	107. C
4. H	17. A	30. H	43. B	56. H	69. D	82. E	95. B	108. F
5. B	18. E	31. D	44. H	57. B	70. H	83. B	96. G	109. B
6. F	19. D	32. E	45. D	58. -0.4	71. A	84. H	97. B	110. G
7. B	20. H	33. B	46. E	59. 150	72. H	85. C	98. G	111. B
8. G	21. D	34. E	47. D	60. 2.5	73. D	86. E	99. B	112. G
9. D	22. G	35. B	48. F	61. 5.5	74. H	87. A	100. H	113. C
10. G	23. D	36. E	49. C	62. 1	75. C	88. E	101. C	114. F
11. D	24. F	37. D	50. G	63. A	76. G	89. B	102. H	
12. E	25. A	38. H	51. A	64. G	77. A	90. H	103. B	
13. D	26. H	39. A	52. E	65. B	78. F	91. A	104. E	

The New York City Department of Education

2024 Specialized High Schools Admissions Test

GENERAL DIRECTIONS

Student Name: _____

Identifying Information

Turn to Side 1 of the answer sheet.

Notify the proctor immediately if you are ill or should not be taking this test. Do not sign the statement or begin the test. Return your answer sheet to the proctor.

Line 1: Read the statement and sign your name in the space following the word "signature." Do not print your name.

Line 2: Print today's date, using the numbers of the month, the day, and the year. For example, the date September 21, 2024, would be 9-21-24.

Line 3: Print your birth date, using the numbers of the month, the day, and the year. For example, a birth date of March 1, 2009, would be 3-1-09.

Grid 4: Print the letters of your first name, or as many as will fit, in the boxes. If you have a middle initial, print it in the box labeled "MI." Then print the letters of your last name, or as much as will fit, in the boxes provided. Below each box, fill in the circle that contains the same letter as the box. If there is a space or a hyphen in your name, fill in the circle under the appropriate blank or hyphen.

Make dark marks that completely fill the circles. If you change a mark, be sure to erase the first mark completely.

Grid 5:

1. Print the name of the school where you are now enrolled in the space at the top of the grid.

2. In the boxes marked "SCHOOL CODE," print the six-digit code that identifies your school. Below each box, fill in the circle that contains the same letter or number as the box. (You can find your school code on your Test Ticket. If it is not there, tell the proctor, and the proctor will get the school code for you.)

3. If you attend a private or parochial school, fill in the circle marked "P."

Grid 6: Complete the grid with your date of birth. Print the first three letters of the month in the first box, the number of the day in the next box, and the year in the last box. Then fill in the corresponding circles.

Grid 7: Print your student ID number in Grid 7. You can find your student ID number on your Test Ticket. In the boxes, print your nine-digit student ID number. Below each box, fill in the circle containing the same number as in the box.

Grid 8: In most cases, Grid 8 is already filled in for you. If it is not, copy the letter and numbers shown in the upper-right corner of your test booklet into the boxes. Below each box, fill in the circle containing the same letter or number as the box.

Now review Side 1 to make sure you have completed all lines and grids correctly. Review each column to see that the filled-in circles correspond to the letters or numbers in the boxes above them.

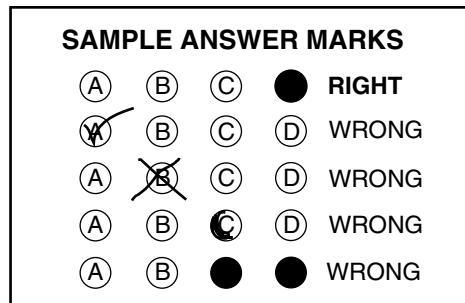Turn your answer sheet to Side 2 and flip this booklet over to continue with General Directions.

**DO NOT OPEN THIS BOOKLET
UNTIL YOU ARE TOLD TO DO SO.**

TURN YOUR BOOKLET OVER TO THE BACK COVER.

GENERAL DIRECTIONS, continued

Print your test booklet letter and numbers, and your name, first name **first**, in the spaces provided at the top of Side 2 of the answer sheet.

Marking Your Answers

- Mark each of your answers on the answer sheet in the row of circles matching the question number printed in the test booklet.
- Use only a Number 2 pencil.
- If you change an answer, be sure to erase it completely.
- Be careful to avoid making any stray pencil marks on your answer sheet. **Do not make any marks on your answer sheet other than filling in your answer choices.**
- Each question has only one correct answer. If you mark more than one circle in any answer row, that question will be scored as incorrect.

```
┌─────────────────────────────────────┐
│        SAMPLE ANSWER MARKS           │
│   Ⓐ    Ⓑ    Ⓒ    ●    RIGHT         │
│   Ⓐ    Ⓑ    Ⓒ    Ⓓ    WRONG         │
│   Ⓐ    Ⓑ    Ⓒ    Ⓓ    WRONG         │
│   Ⓐ    Ⓑ    Ⓒ    Ⓓ    WRONG         │
│   Ⓐ    Ⓑ    ●    ●    WRONG          │
└─────────────────────────────────────┘
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- You can use your test booklet or the provided scrap paper to take notes or solve questions; however, your answers must be recorded on the answer sheet in order to be counted.
- **You will not be able to mark your answers on the answer sheet after time is up, and answers left in the test booklet will not be scored.**

Planning Your Time

- You have 180 minutes to complete the entire test. **How you divide the time between the English Language Arts and Mathematics sections is up to you.**
- If you begin with the English Language Arts section, you may go on to the Mathematics section as soon as you are ready. Likewise, if you begin with the Mathematics section, you may go on to the English Language Arts section as soon as you are ready.
- Be sure to read the directions for each section carefully.
- Each question has only one correct answer. Choose the best answer for each question.
- When you finish a question, go on to the next, until you have completed the last question or run out of time.
- Your score is determined by the number of questions you answer correctly. **Answer every question, even if you may not be certain which answer is correct.**
- Don't spend too much time on a difficult question. Come back to it later if you have time.
- If you complete the test before the test time (180 minutes) is over, you may go back to review questions in either section.
- Students must stay for the entire test session (180 minutes).

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO

Pearson

B

Part 1 — English Language Arts

57 Questions

Revising/Editing

QUESTIONS 1-15 (PART A AND PART B)

REVISING/EDITING PART A

DIRECTIONS: Read and answer the following questions. You will be asked to recognize and correct errors so that the sentences or short paragraphs follow the conventions of standard written English. You may write in your test booklet as needed to take notes. You should reread relevant parts of the sentences or paragraphs, while being mindful of time, before marking the **best** answer for each question.

1. What is the **best** way to combine these sentences to clarify the relationship between ideas?

> (1) The International Space Station has been inhabited by crew members since 2000.
>
> (2) Tourists will soon be allowed to pay for visits to the space station.
>
> (3) Because the cost is $52–$58 million round trip, few people will be able to take advantage of the opportunity to have a vacation in outer space.

A. The International Space Station has been inhabited by crew members since 2000, but tourists will soon be allowed to pay for visits to the space station, which cost $52–$58 million round trip, so few people will be able to take advantage of the opportunity to have a vacation in outer space.

B. The International Space Station has been inhabited by crew members since 2000 and will soon allow tourists to pay for visits, but because the cost is $52–$58 million round trip, few people will be able to take advantage of the opportunity to have a vacation in outer space.

C. The International Space Station has been inhabited by crew members since 2000, but tourists will soon be allowed to pay for visits to the space station, though the cost is $52–$58 million round trip, so few people will be able to take advantage of the opportunity to have a vacation in outer space.

D. The International Space Station has been inhabited by crew members since 2000, and tourists will soon be allowed to pay for visits to the space station because the cost is $52–$58 million round trip, therefore few people will be able to take advantage of the opportunity to have a vacation in outer space.

2. Which sentence contains an error in its construction and should be revised?

(1) In 1976, the National Basketball Association (NBA) absorbed several teams of the American Basketball Association (ABA), including the New York Nets, who played in the Long Island area at the time. (2) The owner of the Nets decided to take the team to New Jersey after the team had financial troubles, where the team played for thirty-five seasons. (3) The New Jersey Nets had sixteen playoff appearances, including two appearances in the NBA finals. (4) In 2012, the team changed ownership and returned to New York, where the team now plays under the name the Brooklyn Nets.

E. sentence 1
F. sentence 2
G. sentence 3
H. sentence 4

3. Read this sentence.

The Appalachian Trail is a really long trail that a lot of people do each year.

Which revision of the sentence uses the **most** precise language?

A. The Appalachian Trail is an extremely long trail that millions of people do each year.
B. The Appalachian Trail is a 2,200-mile trail that more than a million people hike each year.
C. The Appalachian Trail is a 2,200-mile trail that two million people hike each year.
D. The Appalachian Trail is a lengthy trail that a couple million people do each year.

4. Which pair of revisions need to be made in this paragraph?

---

(1) When coal was used to heat <u>homes</u>, it frequently left soot stains on the walls. (2) Brothers Cleo and Noah McVicker, who owned a cleaning product <u>company</u> created a doughy substance to help people remove this soot. (3) Over time, as natural gas <u>becomes</u> more common, people had little need for soot cleansers, and the McVickers' family company struggled to stay in business. (4) Then one day Joe McVicker, Cleo's son, learned that his sister-in-law had been using the substance for art projects in her classroom, so he <u>remarketed</u> the product as the toy known today as Play-Doh.

E. Sentence 1: Delete the comma after ***homes***.
   Sentence 3: Change ***becomes*** to **became**.

F. Sentence 1: Delete the comma after ***homes***.
   Sentence 4: Change ***remarketed*** to **had remarketed**.

G. Sentence 2: Insert a comma after ***company***.
   Sentence 3: Change ***becomes*** to **became**.

H. Sentence 2: Insert a comma after ***company***.
   Sentence 4: Change ***remarketed*** to **had remarketed**.

CONTINUE TO THE NEXT PAGE ▶

DIRECTIONS: Read each of the following two texts and answer the related questions. You will be asked to improve the writing quality of each text and to correct errors so that the texts follow the conventions of standard written English. You should reread relevant parts of each text, while being mindful of time, before marking the **best** answer for each question.

Find Time to Volunteer

(1) Many people believe that they gain a greater sense of purpose by giving their time to serve others. (2) These are the people who spend their free time volunteering at various places within the community. (3) Those who are served benefit from the work of these volunteers. (4) However, research shows that those who volunteer also receive benefits.

(5) For many students, this proposition may sound impossible. (6) Schoolwork can require hours of study each week. (7) Volunteering at a retirement center or homeless shelter requires both time and energy. (8) Extracurricular activities fill up after-school time. (9) Family obligations and part-time jobs often have to be worked into the schedule, too. (10) However, if students can find time to volunteer, even for a few hours a month, they may find that the benefits outweigh the scheduling difficulties.

(11) To begin with, students who engage in volunteer activities acquire valuable skills and experience, which can help them focus on potential fields of study and career options. (12) Furthermore, when students list volunteer work on college applications, admissions counselors see applicants who care about making their community and college campus a better place.

(13) Volunteerism benefits more than students applying to college. (14) This type of experience is equally important for students moving directly into the workforce after high school. (15) Volunteering demonstrates initiative, dedication, and a strong work ethic, qualities that companies value in a potential employee. (16) In a CareerBuilder study, 60 percent of managers regarded volunteerism as a significant asset when considering applicants.

(17) Students who volunteer undoubtedly make a positive investment in their future, but they also affect their present quality of life. (18) Studies have shown that volunteering is good for both the mind and the body. (19) Volunteering can boost mood levels and reduce anxiety. (20) According to the Mayo Clinic,[1] the feeling of doing something meaningful and the appreciation received from that action can reduce stress.

(21) Even the busiest of students can find a way to donate some time to a worthy cause. (22) Though managing different commitments may seem overwhelming at times, students are sure to feel a sense of fulfillment in volunteerism.

---

[1]Mayo Clinic: a nonprofit medical organization dedicated to treatment and research

5. Which revision of sentence 2 uses the **most** precise language?

   A. These are the people who spend their free time volunteering at animal shelters, helping with activities in community centers, or cleaning up parks.

   B. These are the people who spend their free time helping others in numerous ways at a variety of places, events, or organizations that need support.

   C. These are the people who spend their free time working at local establishments that help people, animals, or other groups in need of assistance.

   D. These are the people who spend a lot of time volunteering at places where they can help people in many ways.

6. Which sentence should follow sentence 4 to introduce the main claim of the passage?

   E. With that in mind, high school students should consider engaging in some form of regular volunteerism.

   F. Fortunately for students, these benefits are guaranteed to produce both immediate and long-term results.

   G. In fact, studies have confirmed that volunteerism can be beneficial for students, the family, and the community.

   H. For this reason, high school students should learn about how helping others can strengthen their communities.

7. Which sentence is least relevant to the ideas presented in the second paragraph (sentences 5–10) and should be deleted?

   A. sentence 6

   B. sentence 7

   C. sentence 8

   D. sentence 9

8. Which of these would **best** follow sentence 12 and support the ideas presented in the third paragraph (sentences 11–12)?

    E. These students show that they are likely to be responsible, reliable, and helpful young adults. Admissions counselors know that character traits like these will benefit the applicants as well as whomever they interact with.

    F. Volunteering can help students meet new people who can provide references and advice to the students when they are applying to colleges. It can also be an invaluable opportunity for students to meet possible future employers.

    G. The counselors hope that young adults who demonstrate this behavior will go on to volunteer during their college years, working on campus in student government and leadership programs or serving in the community at hospitals, schools, and homeless shelters.

    H. Many colleges are looking for students who are not just academically successful but who also work well with others and care about improving and serving surrounding communities.

9. Which concluding sentence should replace sentence 22 to provide the **best** support for the argument presented in the passage?

    A. In every city, there are homeless shelters, food pantries, youth centers, and political campaigns that depend on the support and commitment of hardworking young people.

    B. Clearly, students who volunteer will experience a host of benefits, such as learning new skills, meeting interesting people, opening up opportunities for the future, and gaining a sense of satisfaction.

    C. When students carefully evaluate their activities and prioritize volunteerism, they find a way to work it into their schedule and are soon encouraging their peers to do the same.

    D. Whether they are seeking admission to college, preparing to enter the workforce, or simply looking to reduce stress, high school students who volunteer can help themselves as much as they help others.

CONTINUE TO THE NEXT PAGE ▶

Moving through Mountains

(1) An age-old proverb says that necessity is the mother of invention. (2) Centuries of human ingenuity in the face of obstacles prove this to be true. (3) For many years the Swiss Alps, a mountain range spanning southern Switzerland and northern Italy, were such an obstacle. (4) Roads and railways had to navigate around the mountains or through winding tunnels inside the mountains, making the transportation of people and goods difficult and time-consuming. (5) In 2016 these burdens were eased with the completion of the Gotthard Base Tunnel.

(6) Construction of the high-speed railway tunnel began in 1996. (7) The tunnel was created through the use of tunnel-boring machines, which are giant drills with a flat rotating head called a cutter head. (8) Each of the tunnel-boring machines used during the construction of the tunnel was about the length of four football fields arranged end-to-end. (9) During the seventeen-year construction period, 28 million tons of rock were removed, enough to rebuild the Great Pyramid of Giza five times. (10) This massive construction project is reported to have cost $12 billion. (11) After that, 4 million cubic meters of concrete, or enough concrete to build eighty-four Empire State Buildings, were used to construct and support the tunnel.

(12) In a few years, the high-speed railway will carry more than 250 freight trains and 55 passenger trains a day, with most traveling at speeds of around 100 to 125 miles per hour. (13) It will be faster for people to travel between northern and southern Europe. (14) The travel time between the European cities of Zurich, Switzerland, and Milan, Italy, will be reduced by an hour. (15) Many European leaders compare the Gotthard Base Tunnel to the Channel Tunnel, a 33-mile underwater tunnel that connects the United Kingdom and France. (16) While there is no roadway in the Channel Tunnel, people can drive their cars onto special trains that will carry vehicles through to the other side.

(17) Just as traffic congestion in major cities led to the construction of underground local transportation, natural formations, such as mountain ranges, have also sent people underground for faster, easier, and cheaper methods of transportation across larger areas. (18) There is renewed interest in constructing innovative methods of transportation that will help eliminate problems associated with traveling to and from certain areas.

10. Which sentence should be added after sentence 5 to introduce the main topic of the passage?

  E. The construction of the Gotthard Base Tunnel was approved by Swiss voters in 1992 and was funded by tolls, fuel taxes, and government loans.

  F. Leaders from several European countries attended the opening ceremonies for the Gotthard Base Tunnel, a Swiss tunnel.

  G. The Gotthard Base Tunnel is the world's longest and deepest railway tunnel, stretching 35.5 miles straight through the base of the Swiss Alps.

  H. The Gotthard Base Tunnel continues to help reduce the number of freight trucks on the roadways in the Swiss Alps.

11. Which sentence should be added to follow and support sentence 7?

  A. The tunnel-boring machine is helpful to tunnel builders in the modern era and has been an improvement over dynamite.

  B. These enormous tunnel-boring machines function somewhat like a cheese grater, with the cutter head grinding slowly through rock and stone.

  C. Engineers had considered making a tunnel under the mountains for many years, but it was impossible to do without modern tunnel-boring machines.

  D. Different types of cutter heads are used with tunnel-boring machines depending on the geology of the area where the tunnel is being created.

12. Where should sentence 11 be moved in order to improve the organization of the second paragraph (sentences 6–11)?

  E. to the beginning of the paragraph (before sentence 6)

  F. between sentences 6 and 7

  G. between sentences 8 and 9

  H. between sentences 9 and 10

13. Which sentence presents information that shifts away from the main topic of the third paragraph (sentences 12–16) and should be removed?

  A. sentence 13

  B. sentence 14

  C. sentence 15

  D. sentence 16

14. Which transition phrase should be added to the beginning of sentence 18?

    E. Although the Gotthard Base Tunnel is mainly for freight trains,

    F. With the Gotthard Base Tunnel taking ten years to complete,

    G. Because of the successful completion of the Gotthard Base Tunnel,

    H. As the number of trains using the Gotthard Base Tunnel increases,

15. Which concluding sentence should be added after sentence 18 to support the topic presented in the passage?

    A. There is proof that underground tunnels such as the Gotthard Base Tunnel are beneficial to the economy of the surrounding area.

    B. The Gotthard Base Tunnel is an extraordinary example of how human ingenuity and persistence can overcome great obstacles.

    C. The completion of the Gotthard Base Tunnel shows that people can work together to achieve important goals.

    D. The Swiss government is confident that the economic impact of the Gotthard Base Tunnel will be worth its construction cost.

Reading Comprehension

Questions 16–57

DIRECTIONS: Read each of the following five texts and answer the related questions. You may write in your test booklet as needed to take notes. You should reread relevant parts of each text, while being mindful of time, before marking the **best** answer for each question. Base your answers only on the content within the text.

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Excerpt from "How Exercise Could Help You Learn a New Language"

by Gretchen Reynolds

1 Many scientists suspect that exercise alters the biology of the brain in ways that make it more malleable and receptive to new information, a process that scientists refer to as plasticity.

2 But many questions have remained unanswered about movement and learning, including whether exercise is most beneficial before, during or after instruction and how much and what types of exercise might be best.

3 So for a new study, which was published recently in *PLOS One*, researchers in China and Italy decided to home in on language learning and the adult brain.

4 Language learning is interesting. As young children, almost all of us picked up our first language easily. We didn't have to be formally taught; we simply absorbed words and concepts.

5 But by early adulthood, the brain generally begins to lose some of its innate language capability. It displays less plasticity in areas of the brain related to language. As a result, for most of us, it becomes harder to learn a second language after childhood.

6 To see what effects exercise might have on this process, the researchers first recruited 40 college-age Chinese men and women who were trying to learn English. The students had some facility with this second language but were far from proficient.

7 The researchers then divided the students into two groups. Those in one group would continue to learn English as they had before, primarily while seated in rote vocabulary-memorization sessions.

8 The others would supplement these sessions with exercise.

9 Specifically, the students would ride exercise bikes at a gentle pace (about 60 percent of their maximum aerobic capacity) beginning 20 minutes before the start of the lessons and continuing throughout the 15 minutes or so of instruction.

10 Both groups learned their new vocabulary by watching words projected onto large screens, together with comparable pictures, such as "apple" and a Red Delicious. They were shown 40 words per session, with the sequence repeated several times.

11 Afterward, the students all rested briefly and then completed a vocabulary quiz, using computer keys to note as quickly as possible whether a word was with its correct picture. They also responded to sentences using the new words, marking whether the sentences were accurate or, in the case of "The apple is a dentist," nonsensical. Most linguists[1] feel that understanding sentences shows greater mastery of a new language than does simple vocabulary improvement.

12 The students completed eight vocabulary sessions over the course of two months.

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[1]**linguists:** scientists who study language

13 And at the end of each lesson, the students who had ridden bikes performed better on the subsequent vocabulary tests than did the students who sat still.

14 They also became more proficient at recognizing proper sentences than the sedentary students, although that difference did not emerge until after several weeks of instruction.

15 Perhaps most interesting, the gains in vocabulary and comprehension lingered longest for the cyclists. When the researchers asked the students to return to the lab for a final round of testing a month after the lessons—without practicing in the meantime—the cyclists remembered words and understood them in sentences more accurately than did the students who had not moved.

16 "The results suggest that physical activity during learning improves that learning," says Simone Sulpizio, a professor of psychology and linguistics at the University Vita-Salute San Raffaele in Milan, Italy, and a study co-author.

17 These improvements extend beyond simply aiding in memorization, she added. The exercise also deepened language learners' grasp of how to use their newly acquired words.

18 This study involved college students performing relatively light exercise, though, and cannot tell us whether other people completing other types of exercise would achieve the same results.

19 It also offers no clues about what is occurring inside the brain that might be contributing to the benefits of the exercise. But many past studies have shown that exercise prompts the release of multiple neurochemicals in the brain that increase the number of new brain cells and the connections between neurons, Dr. Sulpizio says. These effects improve the brain's plasticity and augment the ability to learn.

20 From a real-world standpoint, the study's implications might seem at first to be impractical. Few classrooms are equipped with stationary bicycles. But specialized equipment is probably unnecessary, Dr. Sulpizio says.

21 "We are not suggesting that schools or teachers buy lots of bicycles," she says. "A simpler take-home message may be that instruction should be flanked by physical activity."

16. How does the author's use of comparison in paragraphs 4 and 5 contribute to the development of ideas in the excerpt?

    E. It identifies why many adults are never able to learn a second language.

    F. It demonstrates why the study of adult language learning tries to include physical activity.

    G. It highlights why more is known about language learning in children than about language learning in adults.

    H. It explains why adults were the subjects of the study rather than children.

17. Read this sentence from paragraph 6.

> **To see what effects exercise might have on this process, the researchers first recruited 40 college-age Chinese men and women who were trying to learn English.**

Which statement describes the function of the sentence in the overall structure of the excerpt?

    A. It indicates a shift from describing the results of the study to describing the process.

    B. It introduces the aspect of the research that was most critical to determining the results.

    C. It marks the change from explaining why the study was conducted to explaining how the study was conducted.

    D. It shows how questions were raised that could be addressed in further research.

18. Which sentence is the **best** summary of the research procedure used in the study in the excerpt?

    E. Researchers had a group of non-English-speaking students learn new English vocabulary by matching words and images on a computer screen, and also by analyzing words in context; some students exercised and some students sat still while learning.

    F. Researchers first divided non-English-speaking students into two groups, with one group exercising before and while studying English and the other group studying English without exercising; then, after instruction, student learning was assessed.

    G. Researchers first had non-English-speaking students sit on stationary bikes and pedal for 20 minutes before instruction and 15 minutes during instruction; then, after a rest period, students indicated whether English sentences made sense.

    H. Researchers asked non-English-speaking students to study English while sitting or biking; then the students' vocabulary skills were assessed after a short break period and also after a break of a full month without their having studied any of the materials.

19. In the study described in the excerpt, researchers asked English learners to assess the sense of words in context because that task is

    A. better at determining the capability learners have of language than simple vocabulary recall.

    B. consistent with the way earlier research was conducted on adult language learners.

    C. a better way for learners to absorb the meaning of individual vocabulary words.

    D. more difficult for learners to perform after an extended period of time has passed.

20. Read these sentences from paragraph 17.

> **These improvements extend beyond simply aiding in memorization, she added. The exercise also deepened language learners' grasp of how to use their newly acquired words.**

Which sentence from the excerpt **best** explains why Sulpizio feels confident in the conclusion stated in these sentences?

    E. "They were shown 40 words per session, with the sequence repeated several times." (paragraph 10)

    F. "They also responded to sentences using the new words, marking whether the sentences were accurate or, in the case of 'The apple is a dentist,' nonsensical." (paragraph 11)

    G. "And at the end of each lesson, the students who had ridden bikes performed better on the subsequent vocabulary tests than did the students who sat still." (paragraph 13)

    H. "They also became more proficient at recognizing proper sentences than the sedentary students, although that difference did not emerge until after several weeks of instruction." (paragraph 14)

21. Paragraph 18 shows that the author's perspective toward the study described in the excerpt is that

    A. though the study allowed some conclusions to be drawn, these conclusions are limited.

    B. while the study focused on moderate exercise, it would have been better to focus on difficult exercise.

    C. while the study was performed appropriately, it is doubtful the results can be duplicated.

    D. though the study was about learning language, its conclusions can be applied to learning in general.

22. Which evidence from the excerpt is **most** relevant to the author's claim that there are many unanswered questions about the relationship between movement and learning?

    E. the method of the study using one type of exercise and people from one age group

    F. the statement from Sulpizio explaining past studies on neurochemicals in the brain

    G. the finding of the study that exercise helps people recall information over a long period of time

    H. the statement from Sulpizio describing how the results of the study can be applied

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This narrative is about the Nez Perce, an American Indian tribe, in what is now northern Idaho. The tribe is preparing for a gathering before the coming winter.

Excerpt from *Do Them No Harm!*

by Zoa L. Swayne

1 In the moon of Ta-Yum, the hottest days of summer, when salmon spawn in the little streams and huckleberries ripen in the high mountains, people from many villages of the Chopunnish Nation gathered in the Oyaip Prairie for the work and festivities of their annual camas**¹** harvest.

2 From far and near The People came. . . .

3 Should a stranger enter their homeland and ask, "Where are you from?" the reply was always, "We are Nee-mee-poo, The People who live here in this place."

4 It was a time of Lawtiwa-mah-ton—a time of being friends together—when The People came for this last chance to enjoy being together before the Cold Moons kept them close to their fires. The visiting and trading, the foot racing and horse racing, and the gambling and stick games would be remembered and talked about long after they had forgotten the drudgery of digging and roasting camas, picking berries, or drying meat and fish. Lawtiwa-mah-ton! It was good to be friends together.

5 As was their custom since wahk-kee-ma, a time far back beyond the memory of man, they set up their camps in the same locations their parents and grandparents had occupied before them. Red Bear's people, from Kamiah, made their camp near the trail that came out of the mountains. Their neighbors in Kamiah Valley, The People from Tee-e-lap-a-lo, had their camp close by. Across the wide meadow, by the great roasting pits, the camps of the Te-wap-poo and Ask-kah-poo were located. The tepees and ish-nash, brush shelters, of other groups nestled in their accustomed areas in and among the pines in such numbers that they encircled the entire meadow land.

6 Red Bear's people had traveled all summer with neighboring bands, gathering and preparing roots, picking and drying berries, drying and smoking meat and fish for their winter food supply. Now they were at the Oyaip camp. The women worked hard to dig and cure as many bags of roots as they could during the warm, sunny days, for the sharp night air brought warnings that WARM was going and COLD was coming.

7 Everyone helped in some way. Most of the men fished or hunted for meat. While many of the women dug and roasted camas, other women and older children picked and dried berries.

8 And the younger children played. They played at hunting. They played with the babies. They played with their horses and puppies. They learned how to live through their play.

9 This sun, happiness, peace, and quiet blessed the Red Bear camp. All were busy with their daily tasks, until sudden cries came from the children playing by the trail.

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¹camas: a wild, edible plant

10 "People coming! People coming! People coming on the trail from the high mountains!" they called as they ran to their elders, who looked sharply at the figures of approaching horsemen.

11 Were they friends or enemies? Did they bring good news or bad?

12 "Who can it be? What brings them here?" were the questions in every mind.

13 "Could they be the four hunters who had gone to Buffalo Country two summers past? Would they have news of the families who had gone long ago to Buffalo Country and never returned?"

14 It was customary for a hunting party to be gone for more than one season.

15 "Looks like hunters," the older men agreed. "Looks like they had good hunting. Maybe our four hunters. [They have] been gone many moons."

16 "Looks like five people—not four," others observed.

17 Excitement grew as the riders came close enough to be recognized.

18 "A-a-a-a-a, they are our four hunters! But who is the fifth person?" they asked.

19 "Looks like a woman. Who is she?"

20 The hunters rode up to the welcoming crowd, proud to show off the loads of meat, hides, and other trophies of their hunt. They paraded around the encampment for all to see how strong their Hunting Power had been—what great hunters they, themselves, were.

21 Red Bear's people rejoiced at their hunters' success. Good hunters brought good to everybody. The meat meant plenty of food and the hides meant soft-tanned robes to give comfort through the Cold Moons. But it was the sight of the frail figure of the woman that aroused their curiosity. Who was she? Where had she come from? . . .

22 "Belongs to Red Bear people. Gone then come back," the hunters said, as they dismounted and unloaded their packs. . . .

23 Now they could see! She was the daughter of the family gone so long ago! The girl-child who had left came back now—a grown woman.

24 "Wat-ku-ese!" the women cried. "Gone-from-Home-then-Come-Back. Wat-ku-ese!" And Wat-ku-ese was her name from that time on.

25 Gentle arms lifted Wat-ku-ese from her horse. The women brought her food and made a place for her to rest. For many suns they cared for her until she became stronger.

26 One evening Wat-ku-ese told her story for all to hear.

23. Paragraph 1 contributes to the setting of the excerpt by establishing that

    A. the story's location is a plentiful place that allows The People to enjoy a comfortable gathering.

    B. the events in the story occurred in the past and are being remembered by The People.

    C. the camp in the story is changing and that the changes are causing problems for The People.

    D. the story's plot begins as The People are observing their land and what it offers them.

24. In paragraphs 4 and 6, the beginning of the change in seasons affects the characters **mainly** by

    E. causing them to collect their bounty and feel eager to celebrate before it becomes cold.

    F. making them want to rest and relax before the challenging work of the harvest begins.

    G. forcing them to give up leisure time to prepare their camp for the coming winter.

    H. allowing them to trade the goods they have prepared during the warm months.

25. How do paragraphs 7 and 9 convey a central idea of the excerpt?

    A. by explaining that The People often explore different areas, which shows the value of trying new things

    B. by revealing that The People must complete many tasks, which shows the necessity of being organized

    C. by suggesting that The People are influenced by the weather, which shows their close relationship with nature

    D. by demonstrating that The People work together, which shows the importance of contributing to the community

26. In paragraph 8, the author repeats the word "played" **most likely** to

    E. emphasize how much the adults enjoy observing the children.

    F. show how everyone finds a way to enjoy being at the gathering.

    G. indicate the variety of activities available at the gathering.

    H. characterize the manner in which the children master the work of adults.

27. How do paragraphs 11–13 affect the plot of the excerpt?

A. They establish a feeling of mystery by presenting different points of view about the arriving people.

B. They contribute to the rising action by developing the idea that the arriving people could present a problem.

C. They lead to a turning point by describing the moment that the crowd realizes why the strangers have come.

D. They explain the cause of the main conflict by providing background information about the strangers.

28. In paragraph 20, the phrases "trophies of their hunt" and "paraded around" affect the paragraph by

E. suggesting that the hunters are rewarded for their leadership.

F. emphasizing that The People are dependent on the hunters for food.

G. revealing that the hunters are pleased with their success.

H. indicating that The People have gathered specifically to welcome the hunters.

29. Which quotation from the excerpt **best** supports the idea that The People feel a connection to members of their group in spite of distance?

A. "As was their custom since wahk-kee-ma, a time far back beyond the memory of man, they set up their camps in the same locations their parents and grandparents had occupied before them." (paragraph 5)

B. " 'Would they have news of the families who had gone long ago to Buffalo Country and never returned?' " (paragraph 13)

C. " 'Looks like hunters,' the older men agreed. 'Looks like they had good hunting.' " (paragraph 15)

D. "But it was the sight of the frail figure of the woman that aroused their curiosity." (paragraph 21)

30. Read these sentences from paragraph 22.

> **"Belongs to Red Bear people. Gone then come back."**

How does this statement affect the villagers in the excerpt?

E. It increases their concern about why the woman is in their camp.

F. It makes them hopeful that more lost members will return before the winter.

G. It causes shock, leading them to grieve for the loss of the woman and her family.

H. It inspires amazement, making them want to reconnect with their returned family member.

31. The details in paragraph 5 about the locations of the camps and the details in paragraphs 23–24 about the reaction to the woman convey a theme of the excerpt by

A. revealing the difficulties posed by moving often each year.

B. showing the connectedness among The People through the years.

C. indicating the value to The People of retelling stories about the past.

D. demonstrating the importance of choosing appropriate names.

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Samuel Morse, an American inventor, is credited with creating the electronic telegraph, a communication device that allows users to send messages using a system of short and long pulses that represent letters, numbers, and punctuation. In 1844, the United States Congress passed the Telegraph Bill, which provided Morse with the funds to build an electric telegraph system.

Invention of the Telegraph

Earlier Signal Systems

1 Long before Samuel F. B. Morse electrically transmitted his famous message "What hath God wrought?" from Washington to Baltimore on May 24, 1844, there were signaling systems that enabled people to communicate over distances. Most were visual or "semaphore" systems using flags or lights. In the eighteenth century, such systems used an observer who would decipher a signal from a high tower on a distant hill and then send it on to the next station. The young American republic wanted just such a system along its entire Atlantic coast and offered a prize of $30,000 for a workable proposal. The framers of this legislation[1] had no way of knowing that when they used the word "telegraph" to refer to this visual semaphore system, they would be offered an entirely new and revolutionary means of communication—electricity.

The Growth of an Idea

2 The idea of using electricity to communicate over distance is said to have occurred to Morse during a conversation aboard ship when he was returning from Europe in 1832. Michael Faraday's recently invented electromagnet was much discussed by the ship's passengers, and when Morse came to understand how it worked, he speculated that it might be possible to send a coded message over a wire. While a student at Yale College years before, he had written his parents a letter about how interesting he found the lectures on electricity. Despite what he had learned at Yale, Morse found when he began to develop his idea that he had little real understanding of the nature of electricity, and after sporadic attempts to work with batteries, magnets, and wires, he finally turned for help to a colleague at the University of the City of New York, Leonard D. Gale.

3 Gale was a professor of chemistry and familiar with the electrical work of Princeton's Joseph Henry, a true pioneer in the new field. Well before Morse had his shipboard idea about a telegraph, Henry rang a bell at a distance by opening and closing an electric circuit. In 1831, he had published an article, of which Morse was unaware, that contained details suggesting the idea of an electric telegraph. Gale's help and his knowledge of this article proved crucial to Morse's telegraph system because Gale not only pointed out flaws in the system but showed Morse how he could regularly boost the strength of a signal and overcome the distance problems he had encountered by using a relay system Henry had invented. Henry's experiments, Gale's assistance, and, soon after, hiring the young technician Alfred Vail were keys to Morse's success.

Obstacles and Opportunities

4 By December 1837, Morse had enough confidence in his new system to apply for the federal government's appropriation, and during the next year he conducted demonstrations of his telegraph both in New York and Washington.

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[1]**legislation:** Telegraph Bill

5 However, when the economic disaster known as the Panic of 1837 took hold of the nation and caused a long depression, Morse was forced to wait for better times. It was during this period that Morse visited Europe again and tried not only to secure patent protection overseas but to examine competing telegraph systems in England. . . .

6 By 1843, the country was beginning to recover economically, and Morse again asked Congress for the $30,000 that would allow him to build a telegraph line from Washington to Baltimore, forty miles away. The House of Representatives eventually passed the bill containing the Morse appropriation, and the Senate approved it in the final hours of that Congress's last session. With President Tyler's signature, Morse received the cash he needed and began to carry out plans for an underground telegraph line.

Realizing a Great Invention

7 Morse had hired the ingenious construction engineer Ezra Cornell to lay the pipe carrying the wire, and although Cornell did his job superbly, one of Morse's partners, Congressman F. O. J. Smith, had purchased wire with defective insulation. Too much time had been wasted laying bad wire, and with the project on a rigid deadline, something had to be done quickly. Cornell suggested that the fastest and cheapest way of connecting Washington and Baltimore was to string wires overhead on trees and poles. The desperate Morse gave the go-ahead, and the line was completed in time for the dramatic and spectacularly successful link between the Supreme Court chamber of the Capitol building and the railroad station in Baltimore.

8 Soon, as overhead wires connected cities up and down the Atlantic coast, the dots-and-dashes method[2] that recorded messages on a long moving strip of paper was replaced by the operator's ability to interpret the code in real time. . . . Telegraph lines soon extended westward, and within Morse's own lifetime they connected the continents of Europe and America.

"Invention of the Telegraph"—Public Domain/Library of Congress

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[2]**dots-and-dashes method:** the short and long pulses of Morse code that are sent and received by telegraph operators

BRITISH ALL-RED TELEGRAPH LINE, 1902
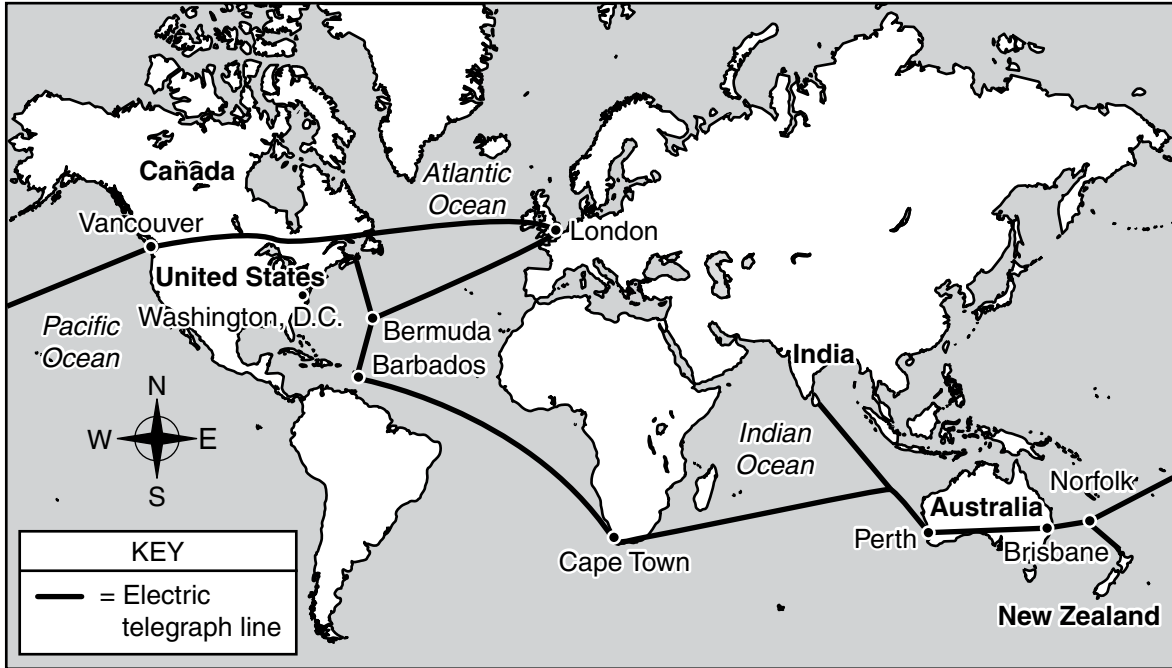
The first transatlantic electric telegraph message was sent in 1858, and by 1902 the British All-Red Line connected most of the world.

TELEGRAPH MESSAGES TRANSMITTED, 1870–1920
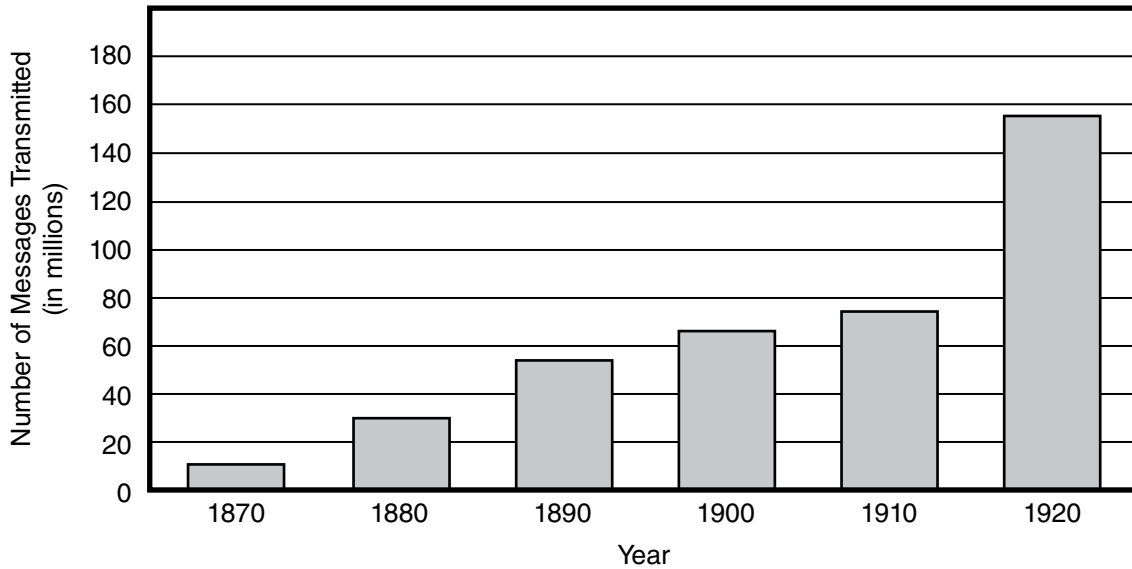
Source: U.S. Bureau of the Census. *Historical Statistics of the United States, Colonial Times to 1970, Bicentennial Edition, Part 2.* Washington, D.C., 1975.

32. Which statement describes how the author's use of problem-solution in paragraph 2 contributes to the development of ideas in the passage?

E. Morse's discussion on a ship about Faraday's electromagnet reminded him of the Yale College lectures on electricity, which he had enjoyed but had not fully understood, inspiring him to learn more about electricity from his colleague Gale.

F. Morse's discouragement over his lack of knowledge of electricity prompted him to experiment with batteries, magnets, and wires, which led to the development of a new long-distance communication system.

G. Morse's difficulty in understanding how Faraday's electromagnet worked was frustrating, and it pushed him to create a system for sending signals over wires.

H. Morse's longtime fascination was not enough to make up for his lack of knowledge about electricity, so he eventually sought help from Gale.

33. The details of the section "The Growth of an Idea" convey a central idea of the passage by suggesting that

A. the collaborative efforts of colleagues resulted in successful communication over a wire.

B. a great deal of interest and work was devoted to understanding how to use electricity to send signals.

C. Faraday's invention of the electromagnet inspired the invention of the telegraph.

D. colleges like Yale played a great role in making new discoveries about electricity and its applications.

34. Which statement describes how the author's use of sequencing in paragraph 3 contributes to the overall structure of the passage?

E. It shows that several people were simultaneously attempting to create an electric telegraph.

F. It shows how the invention of the electric telegraph depended on information and techniques discovered by others.

G. It shows that multiple means of long-distance communication were being used at the same time.

H. It shows how quickly long-distance communication changed from visual signals to electrical signals.

35. Which sentence is the **best** summary of how Morse obtained the funding necessary to build his telegraph system?

    A. Morse's application for a federal grant was delayed until 1843, so he spent time traveling in Europe, where he concentrated on obtaining a patent for his system.

    B. Morse applied for a government grant that required both houses of Congress and the president to pass a bill awarding him $30,000 for his telegraph project.

    C. Morse applied for a government appropriation and conducted telegraph demonstrations to show that his system could work, and after a delay caused by a financial depression, Congress approved the $30,000 appropriation in 1843.

    D. Working with Gale and Vail allowed Morse to find flaws in Henry's work and to develop his own ideas before applying for the federal government appropriation.

36. Read this sentence from paragraph 7.

> **The desperate Morse gave the go-ahead, and the line was completed in time for the dramatic and spectacularly successful link between the Supreme Court chamber of the Capitol building and the railroad station in Baltimore.**

The words "dramatic" and "spectacularly" in the sentence convey a

    E. sense of relief and fulfillment that the line was finished.

    F. sense of wonder and celebration that the telegraph line was accomplished.

    G. feeling of excitement about the future possibilities of the telegraph.

    H. feeling of confidence about being able to continue the work.

37. How does the graph support the ideas in paragraph 8?

    A. It indicates how welcome the improvement of long-distance communication was in the United States.

    B. It provides evidence of the dramatic increase in the number of telegraph messages as Morse's system expanded across the United States.

    C. It reveals that by the twentieth century millions of people had used the telegraph despite earlier hesitations about the system.

    D. It shows how improvements that allowed Morse code to be read in real time made relaying telegraph messages faster and increased the system's usage.

38. The idea that, in the mid-nineteenth century, the United States was mostly unaware of the possibilities of electricity is illustrated in the passage **mainly** through the

    E. description of the government's initial desire to expand a semaphore signaling system that used either flags or lights along the Atlantic Coast.

    F. delay by the House of Representatives to pass the bill funding Morse's telegraph line six years after he first applied for the appropriation.

    G. discussions of the newly invented electromagnet that sparked the idea of sending codes through wires.

    H. description of how an electric circuit could be closed to ring a bell at a distance.

39. With which statement would the author **most likely** agree?

    A. Morse's telegraph was successful because the wires were strung aboveground rather than underground as originally planned.

    B. Understanding the importance of Morse's telegraph requires detailed knowledge of electrical systems.

    C. The implementation of Morse's telegraph system was overly influenced by economic factors.

    D. Morse's invention of the telegraph made a great stride toward better connecting people across the United States and across the world.

40. How does the map provide additional support for a central idea of the passage?

    E. by demonstrating that Morse's telegraph system greatly exceeded the limitations of previous long-distance communication systems

    F. by indicating that Morse was lacking foresight by seeking a patent only in North America

    G. by proving that Gale's advice helped Morse extend the telegraph's range much farther than first thought possible

    H. by showing that the Morse telegraph had a surprisingly immense influence across the world

Snowy Mountains

by John Gould Fletcher

Higher and still more high,
Palaces made for cloud,
Above the dingy city-roofs
Blue-white like angels with broad wings,
5 Pillars of the sky at rest
The mountains from the great plateau
Uprise.

But the world heeds them not;
They have been here now for too long a time.
10 The world makes war on them,
Tunnels their granite cliffs,
Splits down their shining sides,
Plasters their cliffs with soap-advertisements,
Destroys the lonely fragments of their peace.

15 Vaster and still more vast,
Peak after peak, pile after pile,
Wilderness still untamed,
To which the future is as was the past,
Barrier spread by Gods,
20 Sunning their shining foreheads,
Barrier broken down by those who do not need
The joy of time-resisting storm-worn stone,
The mountains swing along
The south horizon of the sky;
25 Welcoming with wide floors of blue-green ice
The mists that dance and drive before the sun.

"Snowy Mountains" by John Gould Fletcher—Public Domain

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41. The description in the first stanza (lines 1–7) helps establish a central idea of the poem by

    A. comparing the length of time the mountains have existed with the length of time the city has existed.

    B. contrasting the grandeur of the mountains with the structures in the city below them.

    C. implying that the mountains are a source of inspiration to the people in the city below.

    D. suggesting that the mountains are larger than the people in the city realize.

42. Read line 5 from the poem.

    Pillars of the sky at rest

The line helps develop the theme of the poem by suggesting that the mountains

    E. serve a noble and supportive purpose in the world.

    F. attract the clouds with their strength and permanence.

    G. remain untamed through the ages.

    H. provide protection for the people.

43. How does isolating the word "Uprise" in line 7 affect the meaning of the poem?

    A. It creates a contrast between the great plateau and the city buildings.

    B. It reveals the similarity between the tall buildings in the city and the tall mountains on the horizon.

    C. It creates a vision of the region before people developed the land.

    D. It emphasizes that the mountains dominate the landscape.

44. Which line from the poem **best** supports the idea that people have sacrificed priceless natural beauty in order to make a profit?

    E. "Above the dingy city-roofs" (line 3)

    F. "The world makes war on them," (line 10)

    G. "Tunnels their granite cliffs," (line 11)

    H. "Plasters their cliffs with soap-advertisements," (line 13)

45. How does the poet develop the speaker's point of view in the second stanza (lines 8–14)?

    A. by describing images of the mountains' awe-inspiring size and strength

    B. by illustrating the differences among the various ways humans can affect the natural environment

    C. by criticizing society for taking careless, harmful courses of action against nature

    D. by demonstrating how the mountains and the people are able to benefit from each other

46. Which detail from the poem reflects the speaker's view that people often fail to appreciate what is familiar?

    E. "The mountains from the great plateau" (line 6)

    F. "They have been here now for too long a time." (line 9)

    G. "Splits down their shining sides," (line 12)

    H. "To which the future is as was the past," (line 18)

47. Read lines 21–22 from the poem.

> **Barrier broken down by those who do not need**
> **The joy of time-resisting storm-worn stone,**

How do the lines help convey the speaker's point of view?

    A. They suggest that the speaker wants to remove the obstacles that prevent others from experiencing the wonders of nature.

    B. They reveal the speaker's opinion that some people are too busy to appreciate natural beauty.

    C. They reflect the speaker's dismay that people destroy the natural landscape without understanding the ramifications of their actions.

    D. They explain that the speaker is confident that nature will never be fully destroyed by people.

48. How do the details in the third stanza (lines 15–26) **most** contribute to the development of a theme of the poem?

    E. by reflecting nature's capacity to resist change
    F. by showing that nature is capable of influencing human will
    G. by exposing how a lack of awareness leads to nature's ruin
    H. by explaining why people must respect nature

49. Read lines 23–26 from the poem.

    The mountains swing along
    The south horizon of the sky;
    Welcoming with wide floors of blue-green ice
    The mists that dance and drive before the sun.

The personification in these concluding lines of the poem suggests that the mountains are

    A. gracious hosts who are untroubled by the actions of people.
    B. unaware of their coming destruction.
    C. lively entertainers who are amused by the everyday concerns of people.
    D. too proud to reveal their pain.

Excerpt from "The Past and the Future of the Earth's Oldest Trees"

by Alex Ross

1 About forty-five hundred years ago, not long after the completion of the Great Pyramid at Giza, a seed of *Pinus longaeva*, the Great Basin bristlecone pine, landed on a steep slope in what are now known as the White Mountains, in eastern California. The seed may have travelled there on a gust of wind, its flight aided by a winglike attachment to the nut. Or it could have been planted by a bird known as the Clark's nutcracker, which likes to hide pine seeds in caches; nutcrackers have phenomenal spatial[1] memory and can recall thousands of such caches. This seed, however, lay undisturbed. On a moist day in fall, or in the wake of melting snows in spring, a seedling appeared above ground—a stubby one-inch stem with a tuft of bright-green shoots.

2 Most seedlings die within a year; the mortality rate is more than ninety-nine percent. The survivors are sometimes seen growing in the shadow of a fallen tree. The landscape of the Ancient Bristlecone Pine Forest, as this area of the White Mountains is called, is littered with fragments of dead trees—trunks, limbs, roots, and smaller chunks. *Pinus longaeva* grows exclusively in subalpine regions of the Great Basin, which stretches from the eastern slopes of the Sierra Nevada to the Wasatch Range, in Utah. Conditions are generally too arid for the dead wood to rot; instead, it erodes, sanded down like rock. The remnants may harbor nutrients and fungi that help new trees grow. Bristlecones rise from the bones of their ancestors—a city within a cemetery.

3 Coast redwoods and giant sequoias, California's gargantuan world-record-holding trees, can grow fifty feet or more in their first twenty years. Bristlecones rise agonizingly slowly. After four or five years, the seedling on the steep slope would have been just a few inches higher, sprouting needles in place of the embryonic shoots. The needles are a deep green, tough, resinous, and closely bunched in groups of five. On a mature tree, they live for fifty years or more. Decades may have passed before the tree was human height, and decades more before it resembled a conventional pine. Bristlecone saplings grow straight up, with relatively sparse foliage, looking like undernourished Christmas trees. After a few hundred years—by which time the Old Kingdom of Egypt had fallen—it was probably forty or fifty feet in height.

4 Many tree species live for hundreds of years. A smaller but not inconsiderable number, including the sequoias and certain yews, oaks, cypresses, and junipers, survive for thousands. Once a bristlecone has established itself in the unforgiving conditions of the White Mountains, it can last almost indefinitely. The trees tend to grow some distance from one another, so fires almost never destroy an entire stand. Because only a few other plant species can handle the dry, cold climate, the bristlecones face little competition. Unlike most plants, they tolerate dolomite soil, which is composed of a chalky type of limestone that is heavily alkaline and low in nutrients. As for insect threats, bristlecone wood is so dense that mountain-pine beetles and other pests can rarely burrow their way into it.

5 Empires rose and fell; wars raged; . . . and the tree from 2500 B.C. continued its implacable slow-motion existence, adding about two-hundredths of an inch to the diameter of its trunk each

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[1]**spatial:** relating to physical space

year. Minute changes in the tree-ring record make bristlecones an exceptionally useful source of data about changing conditions on Earth. When rains are heavier than normal, the rings widen. When volcanic eruptions cause global cooling, frost rings make the anomaly[2] visible. . . .

6 As the millennia go by, bristlecones become contorted and wraithlike.[3] The main stem, or leader, dies back. Entire branches, even the trunk itself, become fossils. At first glance, the tree may look dead. Such is the case of the forty-five-hundred-year-old tree that clings to life near the tourist path that now runs through the Ancient Bristlecone Pine Forest. Spears of dead wood jut into the air. The trunk is a marbled hulk stripped of bark, like driftwood thrown from a vanished ocean. A ribbon of live bark runs up one side, funneling water and nutrients to clumps of green needles high above. All told, the tree is an unprepossessing specimen; most people march past it without giving it a second glance. . . .

7 . . . No two super-elderly trees look alike, to the point where they have acquired the characteristics of individuals. Trees are prone to anthropomorphism; we project our dreams and our anxieties onto them. Bristlecones have been called elders, sentinels, sages. The possibility that climate change will cause their extinction has inspired a spate[4] of alarmed news stories, although tree scientists tend to discount the idea that the bristlecones are in immediate danger. They have survived any number of catastrophes in the past; they may survive humanity.

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[2]**anomaly:** oddity

[3]**wraithlike:** ghostly

[4]**spate:** sudden abundance

50. What is the effect of comparing groups of bristlecone pines to "a city within a cemetery" (paragraph 2)?

    E. It illustrates that the new tree's appearance is markedly different from that of mature bristlecone pines.

    F. It emphasizes the new tree's ability to use resources left by prior generations of bristlecone pines.

    G. It highlights the tree's capacity for a long life if it is able to survive to maturity.

    H. It reveals that the tree's dense growth patterns are unusual in arid conditions.

51. In paragraph 4, the idea that the bristlecone pine can withstand difficult conditions is illustrated **mainly** through

    A. a comparison of the bristlecone pine with similar trees that are known for their long lives.

    B. a description of specific qualities of the bristlecone pine that make it suited to its environment.

    C. an explanation of why the White Mountains are the best place for the bristlecone pine to grow.

    D. an examination of why the bristlecone pine has few competitors in the White Mountains.

52. Read this sentence from paragraph 5.

> **Empires rose and fell; wars raged; . . . and the tree from 2500 b.c. continued its implacable slow-motion existence, adding about two-hundredths of an inch to the diameter of its trunk each year.**

The sentence contributes to the development of ideas in the excerpt by

    E. emphasizing the bristlecone pine's precise growth pattern.

    F. suggesting that things that seem well established face threats.

    G. describing the pace of the life cycle of the bristlecone pine.

    H. explaining the reason for the bristlecone pine's longevity.

53. Which claim is **best** supported by the details in paragraph 5 about the bristlecone pine's tree-ring record?

    A. The bristlecone pine must be protected from extinction so that there is a record of changing Earth conditions.

    B. The structure of the bristlecone pine allows scientists to predict changing Earth conditions over time.

    C. The slow growth process of the bristlecone pine allows it to survive in spite of changing Earth conditions.

    D. The bristlecone pine can be used to gather information on changing Earth conditions because of its long life.

54. The phrases "clings to life" and "stripped of bark" in paragraph 6 are used to highlight

    E. that the tree is fragile and needs help to avoid becoming extinct.

    F. how the tree can be misunderstood because of its appearance.

    G. how the tree interests observers with its unusual appearance.

    H. that the tree manages to survive even when partially fossilized.

55. The details in paragraph 7 convey a central idea of the excerpt by suggesting that

    A. the success of the bristlecone pine lies in its ability to resist climate change.

    B. the uncommon appearance of the bristlecone pine is related to its ability to survive.

    C. the attachment that humans have to the bristlecone pine is understandable.

    D. the longevity of the bristlecone pine continues to encourage experts.

56. What is the **best** summary of the bristlecone pine's life cycle?

    E. The bristlecone pine takes root as a stubby seedling in the mountains. Over time, it grows slowly in a hostile environment with alkaline soil that ensures little competition from other trees.

    F. The bristlecone pine grows up slowly from the fragments of its dead ancestors. Over time, it begins to become contorted in appearance but continues to funnel water and nutrients to its stem.

    G. The bristlecone pine grows slowly in an environment hostile to other trees. Over time, its trunk and some branches fossilize, but it funnels water and nutrients to other parts that are still alive.

    H. The bristlecone pine grows only in one location in the mountains. Over time, it develops sparse foliage that fossilizes slowly, but the trunk and branches stay alive, as revealed by ribbons of live bark.

57. Throughout the excerpt, the author conveys his point of view **mainly** by

    A. sharing details about the qualities of the bristlecone pine that make it an unusual tree.

    B. comparing the bristlecone pine to global empires that lasted thousands of years before falling.

    C. explaining the way the seemingly sickly appearance of the bristlecone pine contrasts with its ability to survive.

    D. arguing that the bristlecone pine has survived past threats to its survival and will continue to thrive.

PART 2 — MATHEMATICS
57 QUESTIONS

IMPORTANT NOTES

(1) Formulas and definitions of mathematical terms and symbols are **not** provided.

(2) Diagrams other than graphs are **not** necessarily drawn to scale. Do not assume any relationship in a diagram unless it is specifically stated or can be determined from the information given.

(3) Assume that a diagram is in one plane unless the question specifically states that it is not.

(4) Graphs are drawn to scale. Unless stated otherwise, you can assume relationships according to appearance. For example, lines on a graph that appear to be parallel can be assumed to be parallel. This is also true for concurrent lines, straight lines, collinear points, right angles, etc.

(5) Reduce (simplify) all fractions to lowest terms.

GRID-IN QUESTION NOTES

(1) For each grid-in question, write your answer at the top of the grid.

(2) Begin recording your answer in the columns on the far left.

(3) Fill in the circle under the box that matches the number or symbol you wrote. Leave the negative sign bubble blank if your answer is positive.

CONTINUE TO THE NEXT PAGE ▶

Grid-In Questions

Questions 58–62

DIRECTIONS: Solve each problem. On the answer sheet, write your answer in the boxes at the top of the grid. Start on the left side of each grid. Print only one number or symbol in each box. Under each box, fill in the circle that matches the number or symbol you wrote above.

- **Do not fill in a circle under an unused box.**

- **Do not leave a box blank in the middle of an answer.**

58.

$$\frac{3}{5}(2x + 5) - 2x$$

After the expression above is simplified, what is the coefficient of x, expressed as a decimal?

59. Two number cubes have sides labeled 1 through 6. Both number cubes are rolled. How many different outcomes will have a sum of 6?

60.

13 cm

3 cm

6 cm

8 cm
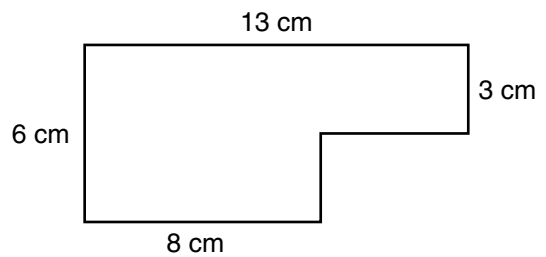
The figure above shows a scale drawing of a garden, where 1 centimeter represents 2.5 meters. What is the perimeter of the actual garden in meters?

61. At one location, the temperature increased from −7° F to 4° F between 5:00 a.m. and 9:00 a.m. By 11:00 a.m., the temperature was 3.5 times the 9:00 a.m. temperature. What was the total increase in temperature between 5:00 a.m. and 11:00 a.m., in degrees Fahrenheit?

62. The figure below is a triangular prism. The lateral sides are rectangles.
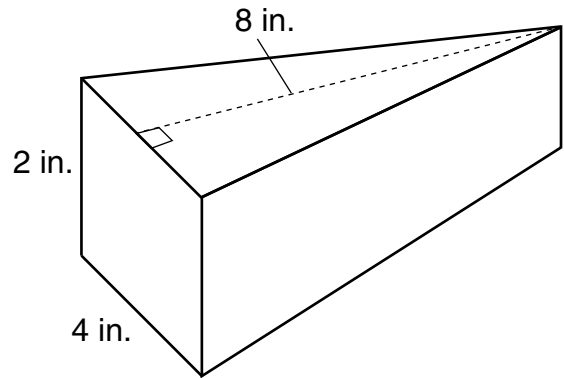

What is the volume of the figure, in cubic inches?

MULTIPLE CHOICE QUESTIONS
QUESTIONS 63–114

DIRECTIONS: Solve each problem. Select the answer from the choices given. Mark the letter of your answer on the answer sheet. When you are solving problems, you can write in the test booklet or on the scrap paper given to you.

63. This graph shows y, the weight of a pole of length x.

WEIGHT OF POLE

Length (feet)
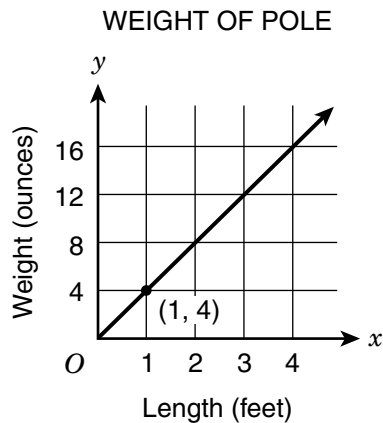
What is represented by the point with coordinates (1, 4)?

A. The unit rate is 4 ounces per foot.
B. The y-intercept is 4.
C. A pole 4 feet long weighs 1 ounce.
D. The length increases 4 feet for each 1 ounce of weight.

64. The number line shows points E, F, G, and H.
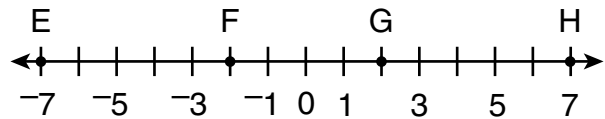
Which point represents the sum of 2.5 + (−4.5)?

E. point E
F. point F
G. point G
H. point H

65. If $\dfrac{9}{2x} = \dfrac{3y}{8}$, where $x \neq 0$ and $y \neq 0$, what is the product of x and y?

A. 4
B. 6
C. 12
D. 16

66. A car dealership is having a sale where all cars have a 12% discount. What is the discounted price of a car that originally cost $15,600?

    E. $13,728
    F. $14,300
    G. $14,400
    H. $15,588

67.
$$4\frac{2}{3} \div 2\frac{1}{2} =$$

    A. $\frac{15}{28}$

    B. $1\frac{13}{15}$

    C. $2\frac{1}{3}$

    D. $3\frac{1}{3}$

68. In a sports league, each team has 36 players and 3 coaches. There are also a number of team assistants. The ratio of team assistants to players is $\frac{1}{6}$. What is the ratio of coaches to assistants?

    E. $\frac{1}{4}$

    F. $\frac{1}{2}$

    G. $\frac{2}{3}$

    H. $\frac{5}{6}$

69. Lena is building a fence. She will need to dig holes to help support the posts that hold up the fence. The holes need to have a depth of $3\frac{1}{3}$ feet below the ground. Each post is 10 feet long. What is the height of the part of the post that is above the ground?

A. $6\frac{2}{3}$ feet

B. $7\frac{1}{3}$ feet

C. 10 feet

D. $13\frac{1}{3}$ feet

70. $$p + 2r = r(p + 1) + 1$$

In the equation above, if $r = 2$, what is the value of p?

E. 0
F. 1
G. 2
H. 3

71. Karen reads at the rate of 60 pages per day. Martina reads 25% more pages per day than Karen. If the two students begin 1,500-page reading assignments on the same day, how many days sooner will Martina complete the assignment than Karen?

A. 4
B. 5
C. 7
D. 15

72. Claire is running on a circular track. She has already run 650 meters. Each lap around the track is a distance of 120 meters. Her goal is to run at least 2,500 meters in all. How many more laps does she need to complete in order to reach her goal?

E. 5
F. 6
G. 15
H. 16

73. A company with 200 employees grew in size by 25% between 2005 and 2010. The company grew again by 10% between 2010 and 2015. What was the total number of employees in 2015?

- **A.** 235
- **B.** 260
- **C.** 270
- **D.** 275

74. A bowl contains 12 green candies, 4 yellow candies, and some red candies. The probability of choosing a green candy at random is twice as great as the probability of choosing a red candy at random. What is the probability of choosing a yellow candy at random?

- **E.** $\dfrac{2}{11}$

- **F.** $\dfrac{2}{9}$

- **G.** $\dfrac{1}{4}$

- **H.** $\dfrac{3}{11}$

75. A taxi driver recorded the number of fares each day for one month. The box plot displays the data.

DAILY FARES

0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32

Number of Fares
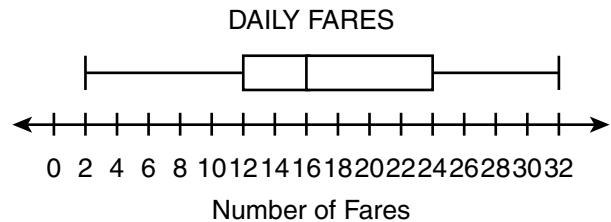
Based on the box plot, which statement is a correct interpretation of the data?

- **A.** The data point 2 is an outlier.
- **B.** The mean of the data is 16.
- **C.** The interquartile range (IQR) of the data is 30.
- **D.** On about 25% of the days, there were between 12 and 16 fares.

76. Serena was studying the number of water stations for different lengths of races. The table below shows the data she collected.

WATER STATIONS IN RACES

Length of Race (mi)	Number of Water Stations
3	2
12	8
18	12

Which equation represents the relationship between the length of the race, x miles, and the number of water stations, y?

E. $y = \dfrac{2}{3}x$

F. $y = \dfrac{3}{2}x$

G. $y = x + 6$

H. $y = x - 1$

77. Centerville will hold a vote on whether to build a new park. The town council surveyed a random sample of 200 residents to determine whether they would be in favor of building this park. The table shows the results of the survey.

SURVEY RESULTS

Opinion	Number of Residents
Yes	142
No	38
Undecided	20

The mayor estimates that half the undecided voters will vote in favor of building the park. Based on the survey results, if the mayor is correct, how many of the 24,100 voters will be in favor of building the park?

A. 17,111
B. 18,316
C. 19,401
D. 19,521

78. $$-\frac{1}{49}, \quad -49, \quad -\frac{1}{7}, \quad -1$$

Which number shown above is the **greatest**?

E. $-\frac{1}{49}$

F. -49

G. $-\frac{1}{7}$

H. -1

79. What decimal is equivalent to $-\frac{13}{11}$?

A. -1.18

B. $-1.\overline{118}$

C. $-1.\overline{18}$

D. $-1.\overline{81}$

80. Each loaf of bread a baker makes requires $\frac{1}{5}$ ounce of salt. How many loaves can be made if 40 ounces of salt are used?

E. 8

F. 20

G. 45

H. 200

81. What is the value of $\dfrac{\left(1\frac{5}{7} - 1\frac{6}{7}\right)}{\left(3\frac{4}{7} - 3\frac{6}{7}\right)}$?

A. $-\frac{1}{2}$

B. $-\frac{1}{7}$

C. $\frac{1}{7}$

D. $\frac{1}{2}$

82. Which number line represents the values of x that satisfy the inequality $-5 \leq 1 - 3x \leq 4$?

E.

```
←—+———+———○————+———+———○———+—→
  -3   -2  -1   0   1   2   3
```

F.

```
←—+———+———●————+———+———●———+—→
  -3   -2  -1   0   1   2   3
```

G.

```
←—+———+———○————+———+———○———+—→
  -3   -2  -1   0   1   2   3
```

H.

```
←—+———+———●————+———+———○———+—→
  -3   -2  -1   0   1   2   3
```
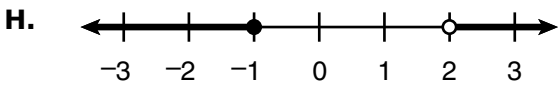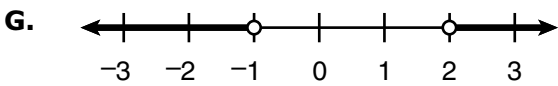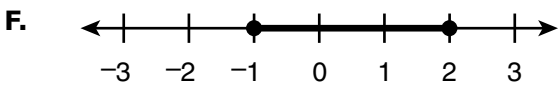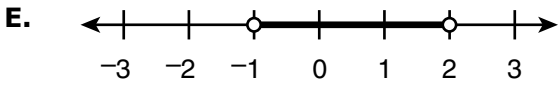
83. If 1 sind = 0.75 plunk, how many sinds are equivalent to 8 plunks, rounded to the nearest hundredth?

A. 1.33

B. 6.00

C. 7.25

D. 10.67

84. Simplify:

$$8x - (7 + 2.5x) + 2$$

E. $5.5x - 9$

F. $5.5x - 5$

G. $10.5x - 9$

H. $10.5x - 5$

85. A community center has two 30-member exercise groups. The director recorded the ages of each group's members in the box plots.

AGES OF GROUPS
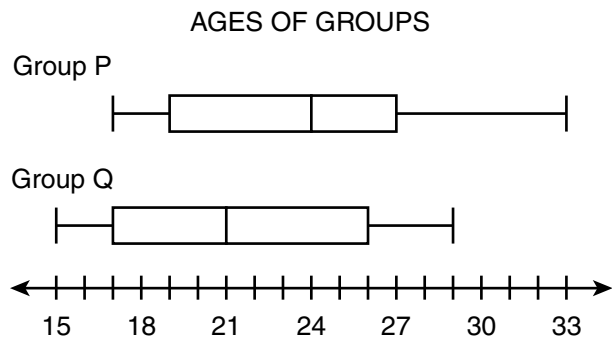
Group P

Group Q

Which statement about the two groups can be verified based on the box plots?

A. Both groups have at least one member who is exactly 29 years old.

B. Group P has more members who are at least 17 years old than Group Q has.

C. Both groups have an equal number of members who are between 21 and 24 years old.

D. Group Q has fewer members who are between 19 and 27 years old than Group P has.

86. Jar Q contains 12 balls, and Jar R contains 8 balls. The probability of drawing a yellow ball at random from Jar Q is $\frac{1}{3}$. The probability of drawing a yellow ball at random from Jar R is $\frac{3}{4}$. All the balls are poured into an empty jar, Jar S. What is the probability of drawing a yellow ball at random from Jar S?

E. $\frac{1}{4}$

F. $\frac{1}{3}$

G. $\frac{1}{2}$

H. $\frac{4}{7}$

87.

GIA'S MIX

Snack	Number in Bag
Pretzels	12
Raisins	9

Gia and her friends counted the numbers of pretzels and raisins in their snack mix. The table above shows the numbers in Gia's mix. Which other mix has a ratio of pretzels to raisins in the same proportional relationship as Gia's mix?

A.   ADELE'S MIX

Snack	Number in Bag
Pretzels	6
Raisins	18

B.   CARL'S MIX

Snack	Number in Bag
Pretzels	15
Raisins	12

C.   ISABEL'S MIX

Snack	Number in Bag
Pretzels	18
Raisins	15

D.   TREVON'S MIX

Snack	Number in Bag
Pretzels	16
Raisins	12

88. If $y = 4x$, what is the value of $3y + 2(3y + 5) - x$ in terms of x?

E. $8x + 10$

F. $32x + 10$

G. $35x + 10$

H. $36x + 10$

89. Two circular plates have the dimensions shown.
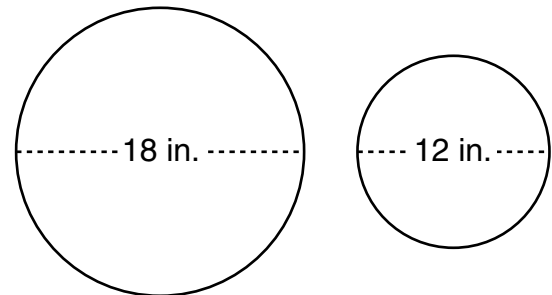
What is the difference between the areas of the two plates, in square inches?

A. 6π

B. 9π

C. 45π

D. 180π

90. If $x = {}^-4$, what is the sum of x and 10% of $|x|$?

    E. $^-4.4$

    F. $^-3.6$

    G. 0.4

    H. 4.4

91. The volume of a cube is 512 cubic centimeters. What is the length, in centimeters, of **one** edge of this cube?

    A. 8

    B. $42\frac{2}{3}$

    C. $85\frac{1}{3}$

    D. 128

92. The high temperature on Monday was $x°$ F. On Tuesday, the high temperature was 84° F, which was a 5% increase from Monday's high temperature. On Wednesday, the high temperature was 10% lower than it was on Monday. How much lower was the high temperature on Wednesday than the high temperature on Monday?

    E. 4.0° F
    F. 8.0° F
    G. 8.4° F
    H. 8.8° F

93. The integers $(n - 1)$, n, and $(n + 1)$ are factors of 168. What is the **greatest** possible value of n?

    A. 3
    B. 7
    C. 14
    D. 84

Raoul gave two musical performances. His second performance occurred 86 days after his first performance. If Raoul's second performance was on a Tuesday, on what day of the week was his first performance?

E. Sunday
F. Monday
G. Wednesday
H. Thursday

95. Michael received a check for $213 for working 20 hours at his part-time job. The amount on the check was his total pay after $32 in taxes was deducted. What was Michael's hourly pay rate before taxes were deducted?

A. $9.05
B. $10.65
C. $12.25
D. $21.35

96.
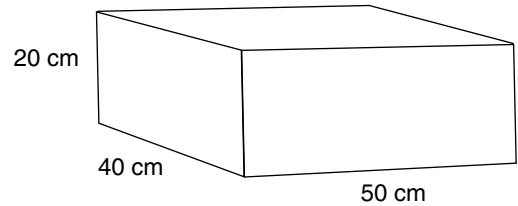
What is the total surface area, in square centimeters, of the closed box shown above?

E. 3,800
F. 5,600
G. 7,600
H. 40,000

97. The value of a particular car decreases at a constant rate. If the car is worth $15,000 three years after its original purchase date and $10,000 five years after its original purchase date, what was the value of the car on its original purchase date?

A. $18,000
B. $20,000
C. $22,500
D. $25,000

98. A bag contains 2 green, 4 blue, and 3 yellow disks. Alana selects 4 disks from the bag at random, one at a time, without replacing them. What is the probability that she selects all 4 blue disks?

E. $\dfrac{8}{2,187}$

F. $\dfrac{1}{126}$

G. $\dfrac{256}{6,561}$

H. $\dfrac{16}{9}$

99. Jevon earns $\dfrac{1}{2}$% per year on the money in his savings account. Which expression is **not** another way to write $\dfrac{1}{2}$%?

A. $\dfrac{0.005}{100}$

B. $\dfrac{\frac{1}{2}}{100}$

C. $\dfrac{5}{1,000}$

D. $\dfrac{1}{200}$

100. A community garden had 50 members in 2001. In each of the next three years, the number of members increased by 40% over the number of members from the previous year. How many members were there in 2004? (Round to the nearest whole number.)

E. 70
F. 98
G. 110
H. 137

101. Which inequality is equivalent to $6x - 20 < 5x - 2(5 - 3x)$?

A. $x < 16$

B. $x < \dfrac{5}{2}$

C. $x < {}^{-}2$

D. $x > {}^{-}2$

102. A box contains a total of 30 paper clips with colors in the ratio red:white:blue = 2:5:3. Suppose that one paper clip of each color is removed from the box and not replaced. What is the probability that the next paper clip chosen will be blue?

E. $\dfrac{5}{27}$

F. $\dfrac{2}{7}$

G. $\dfrac{8}{27}$

H. $\dfrac{3}{10}$

103. The least positive integer evenly divisible by the first 6 positive integers is 60. What is the least positive integer evenly divisible by the first 8 positive integers?

A. 1,680
B. 840
C. 480
D. 420

104. Three different colors of paint are available to paint the window frame, the door, and the wall of a house. If no two parts of the house may be painted the same color, how many different ways are there to paint the three parts of the house?

E. 3
F. 6
G. 9
H. 27

105.
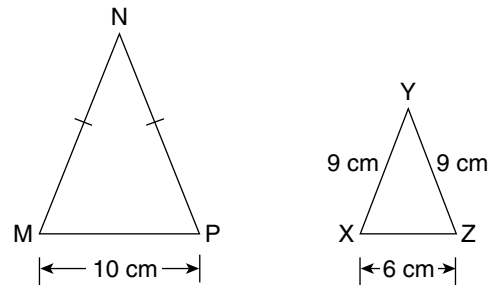
Triangle MNP is similar to triangle XYZ, and MN = NP. What is the perimeter of triangle MNP?

A. 25 cm
B. 30 cm
C. 36 cm
D. 40 cm

106. Suppose that w, x, y, and z are integers, none of which are zero. Under which set of conditions would the product $x^2yz^3|w|$ **always** be positive?

E. x is positive and w is positive.
F. x is negative and w is negative.
G. y is negative and z is negative.
**H.** x and y are negative, and z and w are positive.

107. Chris has 1 red shirt, 2 white shirts, and 3 black shirts. Chris picks a shirt at random. Without putting the first shirt back, he picks a second shirt at random. What is the probability that the first shirt is black and the second shirt is red?

A. $\dfrac{1}{12}$

B. $\dfrac{1}{10}$

C. $\dfrac{1}{5}$

D. $\dfrac{7}{10}$

108. Rita used 125 small solid cubes to build a large solid cube. The measure of each edge of the small cubes equals 1 inch. What is the measure of each edge of the large cube, in inches?

E. 5
F. 25
G. 41.33
H. 125
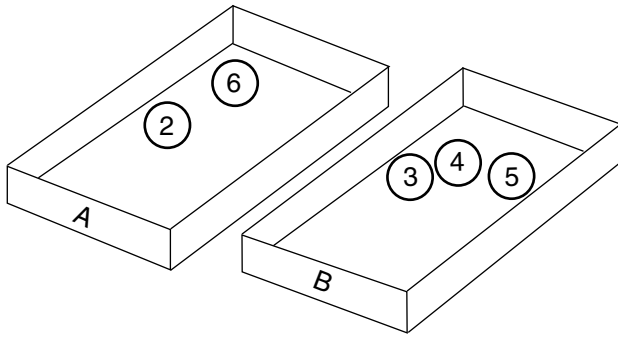
Five numbered balls are placed in two boxes as shown in the figure above. Davina picks one ball at random from Box B and places it in Box A. Then Yusuf picks one ball from Box A without looking. What is the probability that Yusuf will pick a ball with an odd number?

A. $\dfrac{2}{9}$

B. $\dfrac{1}{3}$

C. $\dfrac{2}{5}$

D. $\dfrac{2}{3}$

110. Which graph represents the solution to $\left|x + 1\right| \geq 2$?

E.

F.

G.

H.

111. A rectangular kitchen floor is 12 feet long and 7.5 feet wide. It will be covered completely with new square tiles measuring 0.75 foot on each side. How many tiles will cover the floor?

A. 68
B. 78
C. 120
D. 160

112. Typically, an amusement park sells 3 times as many tickets on Sunday as on any weekday, and 4 times as many tickets on Saturday as on Sunday. If the number of tickets sold on Saturday and Sunday totaled 30,000, how many tickets are expected to be sold on the following Monday?

    E. 2,000
    F. 2,500
    G. 3,000
    H. 4,285

113. A rectangular field had a length of 80 meters and a width of 50 meters. The field was recently enlarged, with the length increased by 15% and the width increased by 10 meters. By what percentage was the area of the field increased?

    A. 26.5%
    B. 35%
    C. 38%
    D. 42.5%

114. If x and y are both negative integers with $x < y$, which expression has the **least** value?

    E. $x^2 y$

    F. xy^2

    G. $-x^2 y$

    H. $-xy^2$

THIS IS THE END OF THE TEST.
IF TIME REMAINS, YOU SHOULD CHECK YOUR ANSWERS. BE SURE THAT THERE ARE NO STRAY MARKS, PARTIALLY FILLED ANSWER CIRCLES, OR INCOMPLETE ERASURES ON YOUR ANSWER SHEET. ∎

Form B

Sample Test – English Language Arts Explanations of Correct Answers

REVISING/EDITING PART A

1. The question asks for the **best** way to combine the sentences.

    A. Incorrect. Although the option combines the sentences in a way that accurately reflects the meaning of each individual sentence, the combined sentence is a string of clauses that do not effectively cohere. Because it is poorly structured, the combined sentence does not clarify the relationship of ideas as effectively as the correct response does. The sentence incorrectly uses "but tourists," and "which cost" modifies "the space station" but does not modify the trip. Compared with the correct response, the combined sentence in this option is also imprecise and unnecessarily wordy.

    B. **CORRECT.** The option uses a complex sentence to present ideas clearly and precisely, and it shows the relationship between the ideas in the original sentences. In the first part of the sentence, the conjunction "and" correctly joins the first and second sentences by indicating a relationship, rather than a contrast, between the two. In the second part of the sentence, the conjunction "but" adds additional emphasis to the fact that while tourists will be allowed to visit the space station, the cost of the trip will likely prohibit most people from visiting.

    C. Incorrect. Although the option combines the sentences in a way that accurately reflects the meaning of each individual sentence, the combined sentence is a string of clauses that do not effectively cohere. Because it is so poorly structured, the combined sentence does not clarify the relationship of ideas as effectively as the correct response does. Compared with the correct response, the combined sentence in this option is also imprecise and unnecessarily wordy.

    D. Incorrect. The combination of the sentences contains an illogical relationship between ideas with the statement that tourists will be allowed to pay for visits to the space station *because* the cost is $52–$58 million round trip. The connection between the idea that "tourists will soon be allowed to pay for visits" and the subsequent "therefore few people will be able to take advantage of the opportunity" is also illogical.

2. The question asks for the identification of the sentence that has an error in its construction and should be revised.

E. Incorrect. There are no errors in the structure of sentence 1. The clause "who played in the Long Island area at the time" correctly modifies the noun "New York Nets." "Who" is the correct relative pronoun to serve as the subject of the modifying clause because it refers to people rather than objects or things.

F. CORRECT. Sentence 2 contains a structural error. The current placement of the clause "where the team played for thirty-five seasons" suggests that the clause is modifying the term "financial troubles," which is illogical. The clause "where the team played for thirty-five seasons" should immediately follow the location, "New Jersey." A revised version of the sentence might read, "After the team had financial troubles, the owner of the Nets decided to take the team to New Jersey, where the team played for thirty-five seasons."

G. Incorrect. There are no errors in the structure of sentence 3. The phrase "including two appearances in the NBA finals" is a nonrestrictive phrase that provides further detail about the team's "sixteen playoff appearances." The phrase is set off by a comma because it is not essential to understanding the meaning of the sentence.

H. Incorrect. There are no errors in the structure of sentence 4. The clause "where the team now plays under the name the Brooklyn Nets" is a nonrestrictive clause that provides further detail about the team after its move back to New York in 2012. The clause is set off by a comma because it is not essential to understanding the meaning of the sentence.

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3. The question asks for the revision of the sentence that uses the **most** precise language.

A. Incorrect. The word "extremely" does not specify the precise length of the trail (2,200 miles); "millions" is less precise than the specific number of people who hike the trail each year (two million); and the verb "do" imprecisely describes the purpose of visiting the trail (hiking).

B. Incorrect. While the revision specifies the precise length of the trail and the verb "hike" precisely describes the purpose of visiting the trail, "more than a million" is less precise than the specific number of people who hike the trail each year (two million).

C. CORRECT. The length of the trail (2,200 miles), the specific number of people who hike the trail each year (two million), and the action of the visitors (hiking) are clear and precise in this revision of the sentence.

D. Incorrect. The word "lengthy" is less precise than specifying the actual length of the trail (2,200 miles); "a couple million" is less precise than the specific number of people who hike the trail each year (two million); and the verb "do" imprecisely describes the purpose of visiting the trail (hiking).

4. The question asks for the pair of revisions needed to correct the errors in the paragraph, which appear in sentence 2 and sentence 3.

E. Incorrect. The comma after the word "homes" in sentence 1 is necessary for separating the subordinate clause "When coal was used to heat homes" from the main clause. The only edit needed in this pair is in sentence 3, which incorrectly shifts the verb into the present tense. The clause "as natural gas becomes more common" should be "as natural gas became more common."

F. Incorrect. The comma after the word "homes" in sentence 1 is necessary for separating the subordinate clause "When coal was used to heat homes" from the main clause. In sentence 4, the word "remarketed" is in the past tense established in the paragraph and should not change to the past perfect tense "had remarketed."

G. CORRECT. This option is the only choice that revises the errors in both sentence 2 and sentence 3. In sentence 2, a comma needs to follow the word "company" to set off the phrase "who owned a cleaning product company." A comma is necessary because the phrase is a nonrestrictive clause: the phrase provides extra information about Cleo and Noah McVicker's line of work, but the phrase is not necessary in order to understand the meaning of the sentence. The second error is in sentence 3, which incorrectly shifts the verb into the present tense. The clause "as natural gas becomes more common" should be "as natural gas became more common."

H. Incorrect. In sentence 2, a comma needs to follow the word "company" to set off the phrase "who owned a cleaning product company." In sentence 4, the word "remarketed" is in the past tense established in the paragraph and should not change to the past perfect tense "had remarketed."

5. The question asks which revision of sentence 2 uses the **most** precise language.

    A. CORRECT. In sentence 2, the author states that people who volunteer in their free time do so "at various places." The revision to sentence 2 provides the most precise language because it references three specific places (animal shelters, community centers, and parks) where people often volunteer.

    B. Incorrect. Although this sentence mentions "a variety of places, events, or organizations" at which people volunteer, the revision does not use the most precise language, because it does not list specific places, events, or organizations.

    C. Incorrect. Although this sentence mentions "local establishments that help people, animals, or other groups," the revision does not use the most precise language, because it does not name the specific types of establishments at which people can volunteer.

    D. Incorrect. Although this sentence mentions "places where [volunteers] can help people in many ways," the revision does not use the most precise language, because it does not provide specific examples of where people can volunteer.

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6. The question asks which sentence should follow sentence 4 to introduce the main claim of the passage.

    E. CORRECT. Sentence 4 states that "research shows that those who volunteer also receive benefits." The sentence in the option logically follows the ideas in sentence 4 and provides the best thesis statement for the passage because it introduces the main claim that high school students should consider the benefits of volunteerism.

    F. Incorrect. While the sentence refers to the "benefits" mentioned in sentence 4, it erroneously asserts that "immediate and long-term results" are "guaranteed." In addition, the sentence does not introduce the main claim of the passage that volunteering is beneficial for high school students.

    G. Incorrect. Although the sentence states that "volunteerism can be beneficial for students," it introduces the idea that "the family, and the community" benefit as well, which is not part of the main argument. Therefore, this sentence should not follow sentence 4 to introduce the main claim of the passage.

    H. Incorrect. Although the sentence introduces the claim that "high school students should learn about" volunteering, it focuses on the idea that volunteering strengthens the community, which is not the main claim. This sentence does not accurately introduce the claim that volunteering is beneficial for high school students and thus should not follow sentence 4.

7. The question asks which sentence is least relevant to the ideas presented in the second paragraph (sentences 5–10) and should be deleted.

A. Incorrect. Sentence 5 introduces the topic of the second paragraph, which is that finding time to volunteer "may sound impossible" for many students. Sentence 6 logically follows this idea because it provides one reason why students might hesitate or be unable to volunteer. Therefore, sentence 6 is relevant to the ideas presented in the second paragraph and should not be deleted.

B. CORRECT. Sentence 7 states that "time and energy" are required for volunteering, which partially addresses the topic of the second paragraph about the various commitments that fill high school students' schedules. However, sentence 7 interrupts the flow of the paragraph by interjecting specific examples ("volunteering at a retirement center or homeless shelter") into a general list of activities and commitments. Thus, the sentence is the least relevant to the paragraph and should be deleted.

C. Incorrect. In the second paragraph, the author discusses why some high school students may hesitate to volunteer. In sentences 6 and 9, the author points out that "schoolwork" and "family obligations and part-time jobs" are activities that require students' time and may cause them to hesitate taking on any additional activities. Sentence 8 contributes to this idea by stating that "extracurricular activities" also require a time commitment from students. As a result, sentence 8 contributes to the ideas in the second paragraph and should not be deleted.

D. Incorrect. In the second paragraph, the author acknowledges that some high school students may hesitate to volunteer because of "schoolwork" and "extracurricular activities." Sentence 9 contributes to this idea by stating that "family obligations and part-time jobs" also require a time commitment and may cause students to hesitate to volunteer. Therefore, sentence 9 contributes to the ideas in the second paragraph and should not be deleted.

8. The question asks which option would **best** follow sentence 12 to support the ideas presented in the third paragraph (sentences 11–12).

E. Incorrect. The subject of the main clause in sentence 12 is "admissions counselors." Although the second sentence in the option mentions "admissions counselors," it does not support the ideas in the paragraph, because the statement that "admissions counselors know that character traits like these will benefit the applicants" focuses on how students benefit, while sentence 12 focuses on how these traits benefit the community.

F. Incorrect. While sentence 11 discusses the potential academic and professional connections that can be made through volunteering, sentence 12 moves on to the topic of college admissions. Since the sentences in the option revert back to the topic of connections, they do not support and logically follow a sentence about how college admissions counselors view students with volunteering experience.

G. Incorrect. Although the sentence in the option continues on the subject of admissions counselors and follows the idea in sentence 12 that these counselors tend to favor students who "care about making their community and college campus a better place," the sentence focuses on what students will do while in college rather than on how volunteering helps them get into college. Therefore, the sentence does not best follow sentence 12 and support the ideas presented in the third paragraph.

H. CORRECT. In sentence 12, the author states that college admissions counselors view students who list volunteer work on admissions applications as "applicants who care about making their community and college campus a better place." The sentence in the option best follows sentence 12 and supports the ideas in the third paragraph because it provides additional details about why admissions counselors look beyond academics when considering students for admissions and the positive qualities assigned to those who have volunteering experience.

9. The question asks which concluding sentence should replace sentence 22 to provide the **best** support for the argument presented in the passage.

    A. Incorrect. Although the sentence lists examples of organizations that depend on "hardworking young people" as volunteers, it should not replace sentence 22, because its use of specific examples does not provide a strong conclusion to the main idea in the passage, and it does not best support the main argument that students benefit themselves and their community when volunteering.

    B. Incorrect. While the sentence supports the argument that students "will experience a host of benefits" through volunteerism, it should not replace sentence 22 as a concluding sentence, because it does not best support the main argument that volunteerism benefits both the students and their community.

    C. Incorrect. Although the sentence emphasizes the importance of prioritizing volunteerism, it should not replace sentence 22, because it focuses on the main idea in the second paragraph ("For many students, this proposition may sound impossible."), rather than the main argument that volunteerism benefits both students and their community. This sentence introduces the idea that student volunteers "are soon encouraging their peers" to volunteer, which does not best support the argument presented in the passage.

    D. CORRECT. This sentence should replace sentence 22 to conclude the passage because it lists specific reasons for volunteering ("Whether they are seeking admission to college, preparing to enter the workforce, or simply looking to reduce stress") and best supports the main argument that volunteering not only helps students but can also help their community ("high school students who volunteer can help themselves as much as they help others").

10. The question asks which sentence should be added to the end of the first paragraph in order to introduce the topic of the passage, which is the description, construction, and use of the Gotthard Base Tunnel.

   E. Incorrect. The option is incorrect because it offers information about the funding used to build the Gotthard Base Tunnel but does not provide a description of the tunnel.

   F. Incorrect. The option is incorrect because it gives details about the opening ceremony of the tunnel but does not provide a description of the tunnel.

   G. CORRECT. The option correctly presents and describes the Gotthard Base Tunnel.

   H. Incorrect. The option is incorrect because it offers a result of completing the Gotthard Base Tunnel rather than offering an introductory statement presenting and describing the tunnel.

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11. The question asks for a sentence that provides additional details about the tunnel-boring machines used to build the Gotthard Base Tunnel in order to support the description of the machines in sentence 7.

   A. Incorrect. The option is incorrect because it offers information about how tunnel-boring machines were an improvement over previous methods but does not include information about how the machines work.

   B. CORRECT. The option is correct because it offers specific details about how tunnel-boring machines, such as the ones used to create the Gotthard Base Tunnel, drill through rock.

   C. Incorrect. The option is incorrect because it presents the idea that the tunnel could not be built until advances were made in tunnel-boring machine technology and does not describe how the machines function.

   D. Incorrect. The option is incorrect because, though it explains that there are different types of cutter heads used for different geologies, the geology of the tunnel area is not discussed in sentence 7 or in the rest of the paragraph.

12. The question asks where sentence 11, which completes the detailed steps of how the tunnel was built, should be moved within the second paragraph in order to improve the organization of the paragraph.

    E. Incorrect. The option, placing the sentence at the beginning of the paragraph (before sentence 6), is incorrect because it would not make sense since the process of building the tunnel has not yet been introduced.

    F. Incorrect. The option is incorrect because placing the sentence after sentence 6 would not make sense given that adding concrete would have to happen after the rock was broken down and removed from the tunnel.

    G. Incorrect. The option, placing the sentence between sentences 8 and 9, would be incorrect because the use of concrete did not take place before the removal of "28 million tons of rock" (sentence 9).

    H. **CORRECT.** The option, placing the sentence between sentences 9 and 10, is correct because placing the sentence there helps the reader understand the full sequence of steps performed in constructing the tunnel before the cost of the project is introduced.

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13. The question asks which sentence should be removed because it presents an idea that shifts away from the main idea of the third paragraph, which is about the transportation benefits of the Gotthard Base Tunnel.

    A. Incorrect. The option (sentence 13) is incorrect because the idea of faster travel times is important to the development of the main idea of the paragraph.

    B. Incorrect. The option (sentence 14) is incorrect because the sentence provides a specific example of decreased travel time between two cities when traveling through the Gotthard Base Tunnel, supporting the development of ideas in the paragraph.

    C. Incorrect. The option (sentence 15) is incorrect because the sentence compares the Gotthard Base Tunnel to another tunnel that provides an important connection between places; thus, the sentence supports the idea that transportation innovations are beneficial.

    D. **CORRECT.** The option (sentence 16) is the correct response because, even though the sentence provides additional information about the Channel Tunnel, it does not help the reader understand the benefits of the Gotthard Base Tunnel.

14. The question asks for a transition that bridges the ideas between sentences 17 and 18 and accurately presents the relationship.

    E. Incorrect. The option is incorrect because the use of the word "although" and the mention of freight trains suggest that sentence 18 will be about other types of vehicles that use the Gotthard Base Tunnel, and the transition phrase does not logically precede the sentence.

    F. Incorrect. The option is incorrect because the reference to the amount of time it took to build the tunnel does not help lead into the idea presented in sentence 18.

    G. CORRECT. The option is correct because it bridges the sentences by referring to the Gotthard Base Tunnel as a solution to the problems described in sentence 17 and logically introduces sentence 18.

    H. Incorrect. The option is incorrect because it suggests that sentence 18 is related to the increasing number of trains using the Gotthard Base Tunnel, which is not accurate.

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15. The question asks for a concluding sentence that supports key ideas about the topic developed earlier in the passage.

    A. Incorrect. The option is incorrect because the economies of surrounding areas are never mentioned in the passage.

    B. CORRECT. The option is correct because it supports the points made in the introductory paragraph by affirming the idea that the Gotthard Base Tunnel is an example of a way people have improved life by overcoming obstacles.

    C. Incorrect. The option is incorrect because, although the construction of the Gotthard Base Tunnel appears to have required many people to work together, the passage does not explicitly mention people or groups working together.

    D. Incorrect. The option is incorrect because it focuses on the cost of the Gotthard Base Tunnel, which is referred to only in sentence 10 of the passage.

READING COMPREHENSION

Excerpt from "How Exercise Could Help You Learn a New Language"

16. The question asks how the author's use of comparison in paragraphs 4 and 5 contributes to the development of ideas in the excerpt.

- **E.** Incorrect. Paragraph 5 does not claim that adults are never able to learn a second language, only that "it becomes harder to learn a second language after childhood."
- **F.** Incorrect. The issue of physical activity is never addressed in these paragraphs. They compare the relative ease with which children and adults learn languages.
- **G.** Incorrect. Paragraph 4 does not claim that more is known about language learning in children; in fact, it says that children simply absorb language easily and does not attempt to explain how.
- **H.** **CORRECT.** Because adult brains lose the "innate language capability" of children and have less plasticity when it comes to language learning, the study chose to focus on adults and how exercise might help them learn new languages.

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17. The question asks how the first sentence from paragraph 6 functions in the overall structure of the excerpt.

- **A.** Incorrect. While paragraph 6 begins to describe how the study was carried out, the results of the study have not been discussed in previous paragraphs.
- **B.** Incorrect. The population used for the study is an important detail that helps describe who participated in the study, as well as an ideal situation (college-age people trying to learn a new language), but this is not critical information used to determine the results.
- **C.** **CORRECT.** While paragraphs 4 and 5 address why the study focuses on adult language learning, the first sentence of paragraph 6 begins to give details about how the study was conducted, including describing the population being studied: "40 college-age Chinese men and women who were trying to learn English."
- **D.** Incorrect. The sentence from paragraph 6 does not include examples or discuss questions for further research; it simply introduces the subjects recruited for the study.

18. The question asks for the **best** summary of the research procedure used in the study in the excerpt.

   E. Incorrect. This summary says that students learned new words by matching words and images and "also by analyzing words in context," but this last method was how the researchers assessed students, not how the students learned words; the summary is therefore inaccurate.

   F. **CORRECT.** The summary includes the most important information, which is that one group of non-English-speaking students exercised before and during the English lessons, while the other group did not, and that the students' learning was assessed afterward.

   G. Incorrect. This summary is incomplete because it never mentions the control group—that is, the students who studied English without exercising—which was essential to the study so that results could be compared.

   H. Incorrect. This summary includes unnecessary details, such as that students were assessed after a short break and also assessed after a month of no studying; it also neglects to mention important points: that one group exercised both before and during learning, while the other group did not exercise at all.

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19. The question asks why the researchers in the excerpt asked the English learners to assess whether the new words made sense in the context of actual sentences.

   A. **CORRECT.** As stated in paragraph 11, "Most linguists feel that understanding sentences shows greater mastery of a new language" than mere memorization of new words, so the researchers realized that asking learners to assess words in context would be a better measure of how well they learned the new words.

   B. Incorrect. The excerpt never addresses how earlier research on adult language learners was conducted.

   C. Incorrect. Having learners respond to the new words in context was used not as a teaching tool but rather to assess learners' mastery (paragraph 11).

   D. Incorrect. The excerpt describes how proficiency at assessing words in context began to emerge "after several weeks of instruction" (paragraph 14) and never suggests that the task became more difficult after an extended period of time.

20. The question asks which sentence from the excerpt **best** supports Sulpizio's assertion in

paragraph 17 that exercise went beyond helping with memorization to deepen the language

learners' ability to use new vocabulary.

    E. Incorrect. This sentence merely describes what the language-learning sessions were like, without making any claims about how the exercise affected the subjects' understanding of how to use new words.

    F. Incorrect. While this sentence does address the fact that learners were required to think about how the new words should be used rather than just memorizing the words, it does not discuss results such as how the exercise affected their ability to do this.

    G. Incorrect. This sentence establishes only that exercise helped with the memorization of new words, not that exercise deepened learners' grasp of how to use the new words.

    H. CORRECT. The fact that learners who exercised were better at identifying when the new words were used correctly in sentences directly supports Sulpizio's assertion that the exercise deepened their grasp of how to use the new words.

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21. The question asks what paragraph 18 reveals about the author's perspective toward the study

in the excerpt.

    A. CORRECT. As paragraph 18 says, the study cannot address "whether other people completing other types of exercise would achieve the same results" as college students riding bikes.

    B. Incorrect. While paragraph 18 mentions that the students performed "relatively light exercise," it never suggests that more rigorous exercise should have been studied, only that it is still unknown what the impact on language learning would be for other populations doing other types of exercise.

    C. Incorrect. Paragraph 18 points out only that the study's results cannot be generalized to other populations performing other types of exercise and never speculates on whether the study's results could be duplicated.

    D. Incorrect. Far from claiming that the study's results could be applied more broadly to learning in general, paragraph 18 points out the ways in which the study's results cannot be applied more broadly.

22. The question asks which evidence from the excerpt is **most** relevant to the author's claim that there are many unanswered questions about the relationship between movement and learning.

    E. CORRECT. While the study revealed that the college students who used exercise bikes did better in their language learning, paragraph 18 indicates that we cannot know "whether other people completing other types of exercise would achieve the same results," suggesting that there are many unknowns about the relationship between movement and learning.

    F. Incorrect. Rather than supporting the claim that there are many unanswered questions about the relationship between movement and learning, this statement offers a possible explanation as to why exercise might improve learning.

    G. Incorrect. The finding that exercise helps people retain their language learning longer (paragraph 15) adds to our understanding of the relationship between movement and learning rather than supporting the claim that there are still many unanswered questions.

    H. Incorrect. Sulpizio's statement that the study suggests that " 'instruction should be flanked by physical activity' " (paragraph 21) does not in any way address the issue of unanswered questions about movement and learning.

23. The question asks how paragraph 1 contributes to the setting of the excerpt.

A. CORRECT. Paragraph 1 describes summer "when salmon spawn," "huckleberries ripen," and The People gather for "their annual camas harvest." These descriptions show the abundance of food in the place where the excerpt occurs.

B. Incorrect. Although the setting refers to past events, the narration is not by The People. In addition, the voice narrating the excerpt is not an element of the setting.

C. Incorrect. Nothing in paragraph 1 suggests that the camp is changing in any way. The People gather annually in this place. In addition, the language used to describe the setting does not suggest any problems.

D. Incorrect. The People are not making observations about the setting in paragraph 1. They are described as performing actions, such as gathering "for the work and festivities of their annual . . . harvest."

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24. The question asks how the beginning of the change of seasons **mainly** affects the characters.

E. CORRECT. Paragraph 4 describes the time as the last chance for The People to be together "before the Cold Moons kept them close to their fires." Paragraph 6 tells about how the women were working hard to dig and cure roots, because "WARM was going and COLD was coming." These paragraphs describe both celebration and preparation before the winter comes.

F. Incorrect. Paragraphs 4 and 6 describe the characters working hard, but there is no discussion of them wanting to rest and relax.

G. Incorrect. While both paragraphs describe some of the work involved in the harvest, paragraph 4 also lists a number of leisure activities, such as visiting, foot racing, horse racing, gambling, and stick games. The characters are still taking the time to relax.

H. Incorrect. While paragraph 4 mentions trading in a list of activities that the characters are doing, this is just one of many activities. Allowing the characters to trade goods is not the way the change in seasons mainly affects them.

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25. The question asks how paragraphs 7 and 9 convey a central idea of the excerpt.

A. Incorrect. Paragraphs 7 and 9 describe activities that The People do at the Red Bear camp. They do not describe The People exploring new areas.

B. Incorrect. While paragraph 7 lists some of the activities that The People did to help, neither paragraph emphasizes that The People need to be organized.

C. Incorrect. Paragraph 9 mentions how the sun blessed the Red Bear camp. However, these paragraphs do not otherwise mention weather.

D. CORRECT. Paragraph 7 lists activities that The People do with one another. Paragraph 9 states that "all were busy with their daily tasks." Everyone is contributing to the community in their preparation for winter.

26. The question asks what is the **most likely** reason that the author repeats the word "played" in paragraph 8.

    E. Incorrect. Paragraph 7 describes the different tasks that the adults were doing at this time. They were not watching the children play, because they were busy working.

    F. Incorrect. While everyone enjoys being at the gathering, the word "played" does not describe the activities of the adults. As described in paragraph 7, the adults are working together at various tasks.

    G. Incorrect. The word "played" is used before phrases describing what the children did. It is not used to list activities available for all at the gathering.

    H. CORRECT. The word "played" appears before different activities that the children did, such as pretending to hunt, take care of the babies, and take care of the animals. They played by pretending to do adult activities. The last sentence states that the children "learned how to live through their play."

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27. The question asks how paragraphs 11–13 affect the plot of the excerpt.

    A. Incorrect. The paragraphs contain questions about the arriving people. They do not present differing points of view.

    B. CORRECT. The paragraphs ask questions in which the characters wonder whether the arriving people are friends or enemies, or whether they might be bringing good news or bad news. By suggesting that the arriving people could present problems such as these, the paragraphs contribute to the rising action.

    C. Incorrect. The paragraphs do not lead to a turning point. Instead, they lead to the climax— the moment the characters discover who the visitors are. This means the paragraphs contribute to the rising action.

    D. Incorrect. Paragraphs 11–13 ask questions. They do not provide background information about the strangers; instead, they ask for it.

28. The question asks how the phrases "trophies of their hunt" and "paraded around" affect paragraph 20.

    E. Incorrect. The phrase "trophies of their hunt" describes the animals that the hunters have successfully found. They have already received their rewards (the animals) and are showing them to The People.

    F. Incorrect. The excerpt describes many ways that The People find and prepare their own food. While they appreciate the extra food, they are not dependent on the hunters.

    G. **CORRECT.** The hunters "parade around" because they are proud of the animals they have been able to get while hunting. Since a trophy is a recognition of success, they consider these animals their trophies.

    H. Incorrect. The phrases show the pride the hunters feel. As paragraph 20 says, the hunters want "all to see how strong their Hunting Power had been." The phrases are focused on the hunters rather than on those who have gathered around them.

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29. The question asks which quotation from the excerpt **best** supports the idea that The People feel a connection to members of their group in spite of distance.

    A. Incorrect. This quotation describes the fact that The People always return to the same camp to perform the same traditional tasks and enjoy the same festivities as their ancestors. This quotation highlights the customs The People continue from their ancestors, but it does not focus on their present personal connections.

    B. **CORRECT.** This quotation alludes to The People's eagerness to hear about the families who had traveled away from their group. This eagerness shows that they still feel a connection to these families, even though they are far apart.

    C. Incorrect. This quotation describes The People's analysis of the visitors—that they may be hunters. It does not show a connection to the visitors.

    D. Incorrect. This quotation shows that The People are curious about a stranger who has come into their camp. It does not show closeness to distant members of the group.

30. The question asks how the statement from paragraph 22 affects the villagers in the excerpt.

    E. Incorrect. In paragraph 21, the villagers question who the woman is and from where she has come, but they are merely curious about her and not necessarily concerned, as there is no indication in paragraph 22 that she might be a threat.

    F. Incorrect. This statement reveals that the woman is a member of the Red Bear people who has returned, and in paragraph 15 there is a reference to four hunters who have been gone a long time. However, this statement serves only to satisfy the villagers' curiosity about who this woman is; it does not make the villagers hopeful that other people will also return.

    G. Incorrect. Though paragraph 23 reveals that the villagers are somewhat surprised because the girl has grown into a woman, paragraph 24 suggests they are excited to receive her. There is no reason given in paragraph 22 for them to grieve for her loss, since she has returned.

    H. CORRECT. The hunters' words from paragraph 22 amaze the villagers, who do not at first recognize the woman. Once they know she is one of their own, they are eager to interact with her, as revealed in paragraphs 24 and 25, where they give her a new name and care for her.

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31. The question asks how the details in paragraph 5 about the locations of the camps and the details in paragraphs 23–24 about the reaction to the woman convey a theme of the excerpt.

    A. Incorrect. Paragraph 5 does not reveal that The People move often, only that they come together near each other at this particular time of year. Paragraphs 23–24 reveal a resolution to the difficulty of people who are absent for some time, but they do not relate to the difficulty of moving often each year.

    B. CORRECT. The details in paragraph 5 show that The People seek to come together in order to share in recreational activities, demonstrating their connectedness. Similarly, the details in paragraphs 23–24 reveal that The People quickly embrace a member of their group who had gone away but has since returned. Taken together, these sections reveal just how much The People rely on their connectedness, a theme of the excerpt.

    C. Incorrect. Although paragraph 5 suggests that The People keep the customs of their ancestors alive, it does not reference storytelling. Further, though paragraphs 23–24 suggest that The People had knowledge of this woman's absence, they do not indicate that this knowledge came from stories in particular.

    D. Incorrect. In paragraph 24, an appropriate new name, meaning "Gone-from-Home-then-Come-Back," is bestowed on the returned woman. However, the importance of appropriate names is not a theme of the excerpt. Rather, the theme that is emphasized is the importance of the connection among The People, exemplified by the annual gathering and the warm welcome extended to the woman who has returned after a long absence.

32. The question asks how the use of problem-solution in paragraph 2 contributes to the development of ideas in the passage.

    E. Incorrect. While the discussion "aboard ship" in 1832 reminded Morse of the lectures he had attended at Yale College and made him consider how a coded message could be sent "over a wire" (paragraph 2), it was Morse's failed attempts with electricity that caused him to reach out to Gale for help.

    F. Incorrect. While "Morse found when he began to develop his idea that he had little real understanding of the nature of electricity" (paragraph 2), the paragraph does not state that he was discouraged; it was his failed experimentation that resulted in him first realizing that he needed help.

    G. Incorrect. Paragraph 2 states that "Morse came to understand how [Faraday's electromagnet] worked," and this understanding is what caused him to think about sending messages over a wire. Also, Morse's difficulty was in understanding the properties of electricity in general once he began his experimentation.

    H. CORRECT. The author's use of problem-solution in paragraph 2 contributes to the development of ideas in the passage because the author states that "Morse found when he began to develop his idea that he had little real understanding of the nature of electricity, and . . . he finally turned for help to . . . Leonard D. Gale." Thus, Morse's longtime fascination was not enough to make up for his lack of knowledge about electricity.

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33. The question asks how the details of the section "The Growth of an Idea" help convey a central idea of the passage.

    A. Incorrect. Although paragraph 2 in this section states that Morse "speculated that it might be possible to send a coded message over a wire," this section does not describe Morse and his colleagues' ultimate success at sending such a message.

    B. CORRECT. The section helps convey a central idea because it mainly focuses on what inspired Morse to begin his work and explains how others were just as interested in working to achieve this goal. Paragraph 3 states that "Henry's experiments, Gale's assistance, and, soon after, hiring the young technician Alfred Vail were keys to Morse's success." Their shared interest in the possibilities of electricity inspired them to work together to find a way to use electricity to send long-distance messages.

    C. Incorrect. Paragraph 2 of the section explains how Morse came to understand how Faraday's electromagnet worked and states that this invention prompted Morse to wonder whether it might be possible to send a coded message over a wire. However, that early idea of Morse's only evolved into the telegraph after much more research and experimentation.

    D. Incorrect. Although paragraph 2 establishes that Morse was interested in lectures at Yale on electricity, the influence of what Morse learned at Yale was only a minor factor in his development of the telegraph.

34. The question asks how the use of sequencing, or arranging in chronological order, in paragraph 3 contributes to the overall structure of the passage.

- **E.** Incorrect. Although the inventions and advancements of others assisted in the development of the telegraph, the passage does not suggest that the other men were attempting to create their own telegraph systems.
- **F.** **CORRECT.** The use of sequencing in paragraph 3 emphasizes that Morse's telegraph was created through a process of building upon earlier scientific ideas and breakthroughs. Paragraph 3 shows that when Morse approached Leonard D. Gale for help, Gale was able to inform Morse about Joseph Henry's earlier experiments and research concerning electricity. Further, Gale built upon Henry's work by showing Morse how to "regularly boost the strength of a signal and overcome the distance problems he had encountered by using a relay system Henry had invented."
- **G.** Incorrect. The only other long-distance communication system mentioned in the passage is the outdated semaphore system discussed in paragraph 1.
- **H.** Incorrect. The telegraph system was in development for more than ten years because of the lack of funding and the need for further experimentation.

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35. The question asks for the **best** summary of how Morse obtained the funding necessary to build his telegraph system.

- **A.** Incorrect. This summary focuses mostly on what Morse did while his application for funding was delayed in the United States rather than on how Morse acquired the patent, because during this period, Morse tried "not only to secure patent protection overseas but to examine competing telegraph systems in England" (paragraph 5). Therefore, it is not the best summary of how Morse obtained the funding necessary to build his telegraph system.
- **B.** Incorrect. Although this summary mentions how Morse applied for the "federal government's appropriation" (paragraph 4), it primarily focuses on the actions of the House of Representatives and the Senate, not on Morse's efforts to obtain funding. Therefore, it is not the best summary of how Morse obtained the funding necessary to build his telegraph system.
- **C.** **CORRECT.** This summary best describes how Morse obtained the funding that he needed for his telegraph system, because it explains that Morse applied "for the federal government's appropriation, and during the next year he conducted demonstrations of his telegraph" (paragraph 4). In paragraph 5, the author explains the impact that the Panic of 1837 had on Morse's request. In paragraph 6, the author describes how by 1843, economic times had improved, so Morse again "asked Congress for the $30,000" and was awarded the funds after "the Senate approved it."
- **D.** Incorrect. This summary is not the best summary of how Morse obtained the funding necessary to build his telegraph system, because it relates how Morse worked with others to develop his ideas about the telegraph and how Gale and Vail were the "keys to Morse's success" (paragraph 3) before he applied for funding.

36. The question asks what the words "dramatic" and "spectacularly" convey in the sentence from paragraph 7.

    E. Incorrect. While there may have been some feelings of relief and fulfillment when the lines were finished, the passage instead focuses on the wonder and joy that Morse and Cornell felt after overcoming setbacks and completing the construction of the telegraph system.

    F. **CORRECT.** Morse and Cornell rushed to post the wires overhead, and the "rigid deadline" (paragraph 7) was successfully met. The words have a positive and victorious tone that is consistent with the feeling of wonder that it worked and of celebration that the construction was completed.

    G. Incorrect. The passage does not share whether Morse or Cornell considered the future possibilities of the telegraph; it shares only that the finished product was "dramatic," implying it was amazing to see.

    H. Incorrect. While the passage later discusses the expansion of overhead wires "up and down the Atlantic coast" and how they "connected the continents of Europe and America" (paragraph 8), there is no evidence shared in the passage that Morse planned to continue his work with electricity.

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37. The question asks how the graph supports the ideas in paragraph 8.

    A. Incorrect. While it can be inferred from the expansion shown on the graph that people possibly welcomed the improvement in long-distance communication, the graph does not state this explicitly.

    B. **CORRECT.** The graph shows the number of messages transmitted from 1870 to 1920. In 1920 almost 160 million messages were transmitted, showing a "dramatic"—almost double—increase from 1910.

    C. Incorrect. The graph does not show how many people used the telegraph, but rather it shows the number of messages sent. Additionally, paragraph 8 provides no details about hesitation on the part of individual people.

    D. Incorrect. While improvements in recording and interpreting code were made, the graph does not show the effect of this advancement on the speed or number of messages being transmitted.

38. The question asks how the passage **mainly** illustrates the idea that the United States was

mostly unaware of the possibilities of electricity in the mid-nineteenth century.

   E. CORRECT. Paragraph 1 states that most signaling systems at the time were "visual or 'semaphore' systems using flags or lights" and that the United States government was looking for "just such a system along its entire Atlantic coast." This option is correct because it shows that the government wanted to continue to use a limited system instead of finding ways to improve the system. Had the government been aware of the possibilities of electricity, a more sophisticated system might have been imagined.

   F. Incorrect. The delay in funding had to do with the Panic of 1837 and the "long depression" (paragraph 5) and was not because the House of Representatives was not aware of or ready for innovation in the use of electricity.

   G. Incorrect. The information in this option focuses on what prompted Morse to consider an electric wire–based communications system. While this option suggests that electrical devices were just beginning to be invented, it does not support the idea that the nation was unaware of the possibilities of electricity.

   H. Incorrect. While this option describes an early electrical innovation that may seem quite basic and limited to modern audiences, paragraph 3 states that this innovation was the work of a "pioneer in the new field," implying that it was quite significant for its time. This option is incorrect because it focuses on those people in the United States who were aware of the possibilities of electricity.

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39. The question asks which statement **most likely** represents a viewpoint held by the author of

the passage.

   A. Incorrect. The author explains that the aboveground wiring was used only because "Cornell suggested that [it was] the fastest and cheapest way" (paragraph 7), not because it would be more successful.

   B. Incorrect. The author conveys the importance of this advancement in communication without providing detailed information about electrical systems.

   C. Incorrect. While the Panic of 1837 caused a delay in Morse's funding, the author shows that Morse received the appropriation in 1843 and was able to overcome the financial setback he faced.

   D. CORRECT. Paragraph 8 states that "telegraph lines soon extended westward, and within Morse's own lifetime they connected the continents of Europe and America." Therefore, this option is correct because the author presents Morse's telegraph as a great leap in the ability to quickly communicate messages over distances never before imagined.

40. The question asks how the map provides additional support for a central idea of the passage.

   E. CORRECT. The map shows the telegraph line crossing continents in 1902, just forty-four years after the first message was sent in 1858. This is a much greater distance than the first line Morse built between "the Supreme Court chamber of the Capitol building and the railroad station in Baltimore" (paragraph 7).

   F. Incorrect. The map shows the distance the line covers; it does not indicate Morse's lack of foresight in seeking patents only in North America.

   G. Incorrect. While Gale's advice was crucial to Morse's success, the map shows the physical line stretching across continents many years later, after their initial work.

   H. Incorrect. While it can be inferred that the telegraph had influence across the world, the amount of influence cannot be determined.

41. The question asks how the description in the first stanza (lines 1–7) helps establish a central idea of the poem.

   A. Incorrect. Details comparing the length of time the mountains have existed with the length of time the city has existed are referenced later in the poem.

   B. **CORRECT.** The poem is mostly about the grandeur of the mountains in spite of the spread of civilization. The first stanza contrasts these two elements.

   C. Incorrect. The poem actually communicates the message that people do not recognize the greatness of the mountains. This message is conveyed in the second stanza rather than in the first stanza.

   D. Incorrect. Although the first stanza mentions the size of the mountains, it does not imply that people cannot see how large the mountains are.

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42. The question asks how line 5 helps develop the theme of the poem.

   E. **CORRECT.** Line 5 helps develop the theme that the mountains are more important than people realize by suggesting that the mountains serve a noble, supportive purpose in the world.

   F. Incorrect. While the poem does describe the strength and permanence of the mountains, the line does not suggest that these traits attract the clouds.

   G. Incorrect. While the line states that the highest peaks are "at rest," the mountains mentioned in the poem have already been harmed by human influence and do not remain untamed or untouched.

   H. Incorrect. While pillars are strong and may indicate shelter, there is no suggestion in the line that the mountains are protecting the people. Additionally, this concept is not a theme of the poem.

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43. The question asks how the isolation of the word "Uprise" in line 7 affects the meaning of the poem.

   A. Incorrect. The word "Uprise" describes the mountains and, therefore, does not create a contrast between the plateau and the city buildings; rather, it creates a contrast between the mountains and the plateau.

   B. Incorrect. The word "Uprise" contrasts the mountains with the plateau; it does not compare the mountains to the buildings in the city.

   C. Incorrect. The word "Uprise" does not create a vision of the region before people developed the land because the first stanza, which line 7 concludes, reveals that the land has already been developed. Line 3 establishes that the mountains rise "above the dingy city-roofs."

   D. **CORRECT.** The isolation of the word "Uprise" powerfully emphasizes the first stanza's description of the magnificent mountains standing tall above the land below.

44. The question asks for the line from the poem that **best** supports the idea that people have sacrificed natural beauty for profit.

    E. Incorrect. While city roofs may spoil the natural beauty, they do not directly symbolize financial gain or profit in line 3.

    F. Incorrect. Although making a profit might have been the root cause of the damage that was done to the mountains, making war on the mountains is not a direct message about profit or financial gain in line 10.

    G. Incorrect. Although tunneling through the mountains affects the natural beauty of the mountains, it does not directly symbolize financial gain or profit in line 11.

    H. **CORRECT.** Advertisements are often used as a means to gain a profit, as implied by the soap advertisements in line 13. Additionally, the word "Plasters," in line 13, communicates a negative connotation for the use of advertisements on the priceless natural beauty of the mountains.

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45. The question asks how the poet develops the speaker's point of view in the second stanza.

    A. Incorrect. The speaker's descriptions of the mountains' awe-inspiring size and strength mainly occur in the first and third stanzas, while in the second stanza, the speaker focuses on humanity and its negative effect on the mountains.

    B. Incorrect. The wording of the second stanza—"makes war" (line 10), "Splits down their shining sides" (line 12), and "Destroys the lonely fragments" (line 14)—communicates the speaker's position that people's main impact on the mountains is destructive; the wording does not illustrate different ways people impact the natural environment.

    C. **CORRECT.** In the second stanza, the speaker criticizes the destructive actions of "the world" (lines 8 and 10) against the mountains—actions such as tunneling "their granite cliffs" (line 11) and destroying "the lonely fragments of their peace" (line 14).

    D. Incorrect. In the second stanza, the speaker does not describe a positive relationship between the mountains and the people.

46. The question asks for the detail from the poem that reflects the speaker's view that people often fail to appreciate that which is familiar.

   E. Incorrect. Line 6 describes the mountains' location, rather than their long existence or their familiarity.

   F. CORRECT. Line 9 most directly supports this idea by implying that the mountains have been there for so long that people are accustomed to seeing them and no longer appreciate their beauty and value.

   G. Incorrect. In line 12, the mention of harm that has been done to the mountains does not connect to a sense of familiarity.

   H. Incorrect. Although line 18 alludes to the long existence of the mountains, it does not connect this long existence with a sense of familiarity or the failure of people to appreciate the mountains' worth.

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47. The question asks how lines 21–22 help convey the speaker's point of view.

   A. Incorrect. The word "barrier" (line 21) refers to the speaker's opinion that the mountains were "spread by Gods" (line 19) and not to an obstacle that the speaker thinks should be removed.

   B. Incorrect. While the lines indicate that people have lost the need to connect with nature, they do not reveal that the speaker thinks that the cause of this loss is busyness.

   C. CORRECT. The words "those who do not need / The joy" in lines 21–22 reflect the speaker's sadness that people do not realize that they are destroying something wonderful and irreplaceable.

   D. Incorrect. Although the speaker does say that the stone is "time-resisting" (line 22), this belief is only a small detail of the speaker's point of view.

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48. The question asks how the details in the third stanza **most** contribute to the development of a theme of the poem.

   E. CORRECT. In the third stanza, phrases such as "Wilderness still untamed" (line 17), "time-resisting storm-worn stone" (line 22), and "The mountains swing along" (line 23) convey the message that in spite of the destruction described in the second stanza, the mountains manage to maintain their wild magnificence.

   F. Incorrect. While the phrase "Barrier broken down" (line 21) conveys the idea that people can have some effect on the natural landscape, it does not convey how nature affects people.

   G. Incorrect. The phrase "those who do not need" (line 21) implies a choice to damage nature and not a lack of awareness or understanding.

   H. Incorrect. The third stanza is not a call to humanity to respect the mountains but a description of the untamed, welcoming mountains and the joy they provide for those who appreciate them.

49. The question asks what the personification in the concluding lines of the poem suggests about the mountains.

  A. **CORRECT.** Line 25's use of the word "Welcoming" suggests that the mountains are kind hosts. Lines 23 and 26, with language such as "The mountains swing along" and "The mists that dance and drive before the sun," imply the carefree nature of the mountains as they resist the destructive work of humanity.

  B. Incorrect. The personification in the lines conveys a sense of optimism and endurance, with no language to suggest coming destruction.

  C. Incorrect. Although the lines mention that "the mountains swing along" (line 23) and "the mists . . . dance" (line 26), the personification is used to describe the mountains' perseverance, rather than to suggest that the mountains are amused by the concerns of others.

  D. Incorrect. Although the second stanza develops the idea that the mountains have been mistreated by humans, which might be a source of pain, the concluding lines emphasize the joy and perseverance of the mountains as they "swing along" (line 23) despite significant adversity.

50. The question asks what the effect is of comparing groups of bristlecone pines to "a city within a cemetery" (paragraph 2).

    E. Incorrect. The reference to "a city within a cemetery" describes how new trees use the remnants of their "ancestors" (paragraph 2) and makes no comment on the appearance of young versus mature trees.

    F. CORRECT. The "cemetery" contains "the bones of their ancestors" (paragraph 2)—"ancestors" being earlier generations of bristlecone pines—which provide some of the nutrients that the new trees need.

    G. Incorrect. The reference to "a cemetery" is not a comment on how long bristlecone pines can live; rather, it illustrates that the new pines are using remnants of their "ancestors" (paragraph 2) to grow.

    H. Incorrect. Although the climate is mentioned in paragraph 2, it is not the reason for the comparison to "a city within a cemetery." The comment is intended to illustrate how the new trees use nutrients left behind by the old ones.

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51. The question asks how paragraph 4 **mainly** conveys the idea that the bristlecone pine can withstand difficult conditions.

    A. Incorrect. While paragraph 4 does mention the bristlecone pine in conjunction with other long-living trees, this does not explain in any way how the bristlecone pine can survive difficult conditions.

    B. CORRECT. Paragraph 4 mentions several qualities that help the bristlecone pine survive a difficult environment: it can survive in a "dry, cold climate" as few plants can, it tolerates a soil that is heavily alkaline and low in nutrients, and the density of its wood protects it from insects.

    C. Incorrect. Paragraph 4 focuses on the qualities of the bristlecone pine that make it well suited to the White Mountains rather than on why the White Mountains are well suited to bristlecone pines.

    D. Incorrect. While paragraph 4 does acknowledge that the bristlecone pine has few competitors because the pine can stand conditions few other plants can stand, it is the examination of the pine's unique qualities that explains how the pine survives those conditions.

52. The question asks how the first sentence of paragraph 5 contributes to the development of ideas in the excerpt.

E. Incorrect. While "two-hundredths of an inch" is a reference to the bristlecone pine's growth pattern, the point of the reference—and of the entire sentence—is to emphasize the incredibly slow pace of the pine's life cycle.

F. Incorrect. While "wars raged" is a threat that empires face, the point of mentioning wars and the rise and fall of empires is to emphasize the bristlecone pine's slow-paced life cycle by contrasting its slowness with the big, dramatic changes taking place in human history during that life cycle.

G. CORRECT. Making reference to huge changes in human history such as the rise and fall of empires and the raging of wars provides a sharp contrast to the incredibly slow growth of the bristlecone pine.

H. Incorrect. This sentence describes how slowly the bristlecone pine grows in contrast to how dramatically human history changes in the same time span but never explains the reasons for the pine's longevity.

53. The question asks which claim is **best** supported by the details about the bristlecone pine tree's ring record presented in paragraph 5.

    A. Incorrect. In paragraph 5, the author explains that the bristlecone pine is "an exceptionally useful source of data about changing conditions on Earth," and this suggests that the information presented by the trees is particularly valuable and important. However, while the paragraph explains that the data provided by the trees are important, it does not address the need to protect the trees from any threat of extinction. The only reference to the trees' extinction is in paragraph 7, when the author addresses the "possibility that climate change will cause their extinction" but then explains that "scientists tend to discount the idea that the bristlecones are in immediate danger."

    B. Incorrect. Paragraph 5 describes "minute changes in the tree-ring record" that make bristlecone pines "an exceptionally useful source of data about changing conditions on Earth," and examples of those changing conditions are described in the present tense: "When rains are heavier than normal, the rings widen." However, the term "record" indicates that the tree rings are already formed by the time scientists study them. The trees provide information about the past, which is emphasized by the description at the beginning of paragraph 5 of historic events one tree lived through. The excerpt contains no information about whether scientists can use the climate patterns of the past as evidenced by tree rings to make predictions about the future.

    C. Incorrect. Paragraph 5 describes the "slow-motion existence" of the bristlecone pine and provides examples of the record of "changing conditions on Earth" reflected in the rings of the trees. However, although the paragraph makes it clear that the trees have been able to survive these changing conditions, the paragraph does not indicate that the slow growth of the trees, each of which adds only "about two-hundredths of an inch to the diameter of its trunk each year," is the key to their survival. Instead, paragraph 4 lists other reasons why an established bristlecone pine "can last almost indefinitely," including distance between individual trees; tolerance for cold, dry conditions and dolomite soil; and bark that is resistant to insects.

    D. **CORRECT.** Paragraph 5 emphasizes the longevity of the bristlecone pine by discussing its "implacable slow-motion existence" and how this makes the trees a valuable source of information for scientists. The author explains that "minute changes in the tree-ring record make bristlecones an exceptionally useful source of data about changing conditions on Earth." A tree that has been alive since 2500 B.C., like the one in paragraph 5, can provide a long record of the changing climate.

54. The question asks what the phrases "clings to life" and "stripped of bark" in paragraph 6 are used to emphasize.

 E. Incorrect. While these two phrases are suggestive of the tree's fragility, nothing in this paragraph suggests that the tree needs help to avoid extinction.

 F. Incorrect. While the tree may be misunderstood to be dead because it is "stripped of bark," the phrase "clings to life" emphasizes the fact that the tree is not dead but manages to survive.

 G. Incorrect. The paragraph says that far from being interested in the tree's unusual appearance, "most people march past it without giving it a second glance" (paragraph 6).

 H. CORRECT. The phrase "clings to life" emphasizes that the tree is still surviving even though it is partially fossilized, as shown by its "marbled hulk stripped of bark" (paragraph 6).

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55. The question asks which central idea of the excerpt is supported by the details in paragraph 7.

 A. Incorrect. While paragraph 7 mentions the pines' ability to survive climate change, the central idea is about the trees' longevity. Surviving climate change is a part of the pines' longevity, but just surviving climate change does not fully encompass the central idea of the excerpt.

 B. Incorrect. Although the paragraph mentions that the "super-elderly trees" are each unique in appearance, their appearance does not directly connect to their ability to survive. The details in paragraph 7 emphasize the durability and longevity of the trees.

 C. Incorrect. While the beginning of paragraph 7 expresses the idea that each bristlecone pine appears to be a unique individual and supports the idea that humans relate to the pines, the paragraph expresses a stronger central idea in the last two sentences about the pines' survival.

 D. CORRECT. The longevity of bristlecone pines is a central idea of the excerpt. Experts are encouraged that bristlecone pines have survived many catastrophes, and the details in the second half of paragraph 7 draw direct attention to the trees' longevity.

56. The question asks for the **best** summary of the bristlecone pine's life cycle.

    E. Incorrect. Though the summary in this option covers key points in the life cycle, it focuses on minor details ("stubby seedling" and "alkaline soil") while leaving out major details of the life cycle (for example, the fact that parts of the trees become fossilized over time).

    F. Incorrect. This option addresses the unique quality of the pine growing from "fragments of its dead ancestors"; however, it does not address the fossilization phase, which is a major part of the life cycle. In addition, this option incorrectly states that the tree continues to funnel nutrients to its stem.

    G. CORRECT. The option describes the key phases of the pine's life cycle without focusing on minor details. The organization of the summary is chronological, and the information presented is accurate.

    H. Incorrect. The option focuses more on the location and the appearance of the pine than on the phases of the pine's life cycle. The option contains an accurate description of the pine's appearance but provides little information about the main phases of its life cycle.

---

57. The question asks how the author **mainly** conveys his point of view throughout the excerpt.

    A. CORRECT. The author clearly conveys his interest in and admiration of the bristlecone pine by sharing many details throughout the excerpt that show how unusual the tree is; these include details about the tree using remnants from previous generations (paragraph 2), details about the tree's "agonizingly" slow growth rate (paragraph 3), and details about the incredibly difficult growing conditions that the tree thrives in (paragraph 4).

    B. Incorrect. While the author does briefly compare the bristlecone pine to global empires (paragraphs 1, 3, and 5), he mainly offers many details throughout the excerpt about what makes the bristlecone pine so unusual.

    C. Incorrect. While paragraph 6 largely focuses on the contrast of the pine's sickly appearance with its ability to survive, this is just one detail about the pine that makes it unusual. The author offers many such details throughout the excerpt.

    D. Incorrect. The author suggests in paragraph 7 that the bristlecone pine "may survive humanity," but this is just one detail about the bristlecone that the author offers in an excerpt full of details, each of which contributes to an understanding of how unusual this tree is.

Form B
Sample Test – Mathematics Explanations
of Correct Answers

58. **(−0.8)** First, distribute $\dfrac{3}{5}$ over $(2x + 5)$ to get the expression $\dfrac{6}{5}x + 3 - 2x$.

Express $-2x$ as $-\dfrac{10}{5}x$ and then add like terms:

$$\frac{6}{5}x + 3 + \left(-\frac{10}{5}x\right) = -\frac{4}{5}x + 3.$$

The coefficient of x is $-\dfrac{4}{5}$.

When expressed as a decimal,

$$-\frac{4}{5} = -0.8.$$

---

59. **(5)** There will be 5 different outcomes with a sum of 6:

$1 + 5 = 6$
$2 + 4 = 6$
$3 + 3 = 6$
$4 + 2 = 6$
$5 + 1 = 6$

60. **(95)** First, find the perimeter of the figure.

Two sides do not have labels. The top of the figure measures 13 cm and the bottom shows a length measuring 8 cm, so the horizontal side without a label measures 5 cm $(13 - 8)$.

The left side of the figure measures 6 cm and the right side shows a length measuring 3 cm, so the vertical side without a label measures 3 cm $(6 - 3)$.

So the total perimeter of the scale drawing is

$$13 + 3 + 5 + 3 + 8 + 6 = 38 \text{ cm}$$

Use the scale to find the perimeter of the actual garden:

$$\frac{1 \text{ cm}}{2.5 \text{ m}} = \frac{38 \text{ cm}}{p \text{ m}}$$
$$p = 2.5 \times 38 = 95$$

61. **(21)** The 11:00 a.m. temperature is 3.5 times the 9:00 a.m. temperature. The 9:00 a.m. temperature was 4° F.

$4 \times 3.5 = 14$

The temperature increased from −7° F at 5:00 a.m. to 14° F at 11:00 a.m., which is an increase of 21° F.

---

62. **(32)** The volume of a triangular prism is found by multiplying the area of the triangular base by the height of the prism.

The area of the triangular base of the prism is $\frac{1}{2}bh = \frac{1}{2}(4)(8) = 16$ square inches.

The height of the triangular prism is 2 inches.

So the volume of the triangular prism, in cubic inches, is $16 \cdot 2 = 32$.

63. **(A)** The *x*-axis represents the length of the pole, in feet, and the *y*-axis represents the weight of the pole, in ounces.

The point (1, 4) means that a 1-foot pole would weigh 4 ounces.

Since the graph is linear, the pole weighs 4 ounces for every additional 1 foot of length.

So the unit rate is 4 ounces per foot.

---

64. **(F)** Find the sum of $2.5 + (-4.5)$:

$2.5 + (-4.5) = 2.5 - 4.5 = {}^-2$

Point F is located at −2.

---

65. **(C)**

$$\frac{9}{2x} = \frac{3y}{8}$$
$9 \cdot 8 = 72$
$2x \cdot 3y = 6xy$
$72 = 6xy$
$12 = xy$

66. (E)

15,600 × 12% =
15,600 × 0.12 = 1,872
15,600 − 1,872 = 13,728

---

67. (B)

$$4\frac{2}{3} \div 2\frac{1}{2} = \frac{14}{3} \div \frac{5}{2} =$$
$$\frac{14}{3} \times \frac{2}{5} = \frac{28}{15} = 1\frac{13}{15}$$

---

68. (F) Let x be the number of assistants.

Since the ratio of assistants to players is $\frac{1}{6}$, then:

$$\frac{1}{6} = \frac{x}{36}$$
$$\frac{36}{6} = x$$
$$6 = x$$

There are a total of 6 assistants.

So the ratio of coaches to assistants

is $\frac{3}{6} = \frac{1}{2}$.

69. (A) The posts are each 10 feet long, and $3\frac{1}{3}$ feet of each post is below the ground, so the height of the part of the posts that is above the ground is the difference between the two amounts:

$$10 - 3\frac{1}{3} =$$
$$\frac{10}{1} - \frac{10}{3} =$$
$$\frac{30}{3} - \frac{10}{3} = \frac{20}{3} = 6\frac{2}{3} \text{ feet}$$

---

70. (F) First substitute 2 for r in the equation.

$$p + 2r = r(p + 1) + 1$$
$$p + 2(2) = 2(p + 1) + 1$$

Then solve for p.

$$p + 2(2) = 2(p + 1) + 1$$
$$p + 4 = 2p + 2 + 1$$
$$p + 4 = 2p + 3$$
$$p + (4 - 3) = 2p + (3 - 3)$$
$$p + 1 = 2p$$
$$(p - p) + 1 = 2p - p$$
$$1 = p$$

The value of p is 1.

71. (B) First, determine the rate at which Martina reads, in pages per day, using the rate at which Karen reads, 60 pages per day.

$60 + 60 \cdot \dfrac{25}{100} =$

$60 + 60 \cdot 0.25 =$

$60 + 15 = 75$

Next, determine the number of days it will take each person to complete the 1,500-page reading assignment.

Karen: $\dfrac{1{,}500 \text{ pages}}{k \text{ days}} = \dfrac{60 \text{ pages}}{1 \text{ day}}$

$60k = 1{,}500$

$(60 \div 60)k = 1{,}500 \div 60$

$k = 25$ days

Martina: $\dfrac{1{,}500 \text{ pages}}{m \text{ days}} = \dfrac{75 \text{ pages}}{1 \text{ day}}$

$75m = 1{,}500$

$(75 \div 75)m = 1{,}500 \div 75$

$m = 20$ days

Finally, determine the difference between the two numbers of days.

$25 - 20 = 5$

So Martina will complete the assignment 5 days sooner than Karen.

72. (H) Claire's goal is to run at least 2,500 meters, and she has already run 650 meters.

$2{,}500 - 650 = 1{,}850$

Claire has at least 1,850 meters left to run. Divide by the distance around the track to find the number of laps she needs to complete:

$1{,}850 \div 120 \approx 15.417$

Since she wants to run at least 2,500 meters, round 15.417 up to 16. Claire needs to run 16 laps to meet her goal.

73. (D) First, determine the number of employees in 2010:

$$200 \times 25\% = 200 \times 0.25 = 50$$

So the number of employees in 2010 is $200 + 50 = 250$.

Next, determine the number of employees in 2015:

$$250 \times 10\% = 250 \times 0.10 = 25$$

So the total number of employees in 2015 is $250 + 25 = 275$.

74. (E) The probability of choosing a green candy is twice as great as the probability of choosing a red candy. There are 12 green candies. Let r = the number of red candies.

$$12 = 2r$$
$$r = 6$$

So there are 6 red candies. 12 green candies + 4 yellow candies + 6 red candies = 22 total candies.

There are 4 yellow candies out of a total of 22 candies. So the probability of choosing a yellow candy is

$$\frac{4}{22} = \frac{2}{11}.$$

75. **(D)** The amount of data in a box plot is broken into 4 parts, or quartiles, which each represent 25% of the data. So the amount of data represented between Quartile 1 (12) and the median (16) is about 25% of the data.

---

76. **(E)** There is a proportional relationship between the length of the race, x miles, and the number of water stations, y. The constant of proportionality is

$$\frac{y}{x} = \frac{2}{3}$$
$$y = \frac{2}{3}x$$

Therefore, the equation $y = \frac{2}{3}x$ represents this relationship.

77. **(B)** If half the undecided voters (half of 20) vote in favor of building the park, the total number of "yes" votes from the survey will be 152.

$$142 + 10 = 152$$

There are 24,100 voters, and 200 residents were surveyed. Set up a proportion to solve:

$$\frac{152}{200} = \frac{x}{24,100}$$
$$\frac{19}{25} = \frac{x}{24,100}$$
$$(24,100)\left(\frac{19}{25}\right) = x$$
$$18,316 = x$$

78. **(E)** All the numbers are negative, so they are all less than zero. Consider the absolute value of each number and where it falls on a number line. The negative number closest to 0 will be the greatest.

The negative number with the greatest absolute value is $^-49$, so it has the least value.

The negative number with the next greatest absolute value is $^-1$, so it would fall next in order from least to greatest.

$^-49, \, ^-1$

Compare the absolute values of $-\dfrac{1}{49}$ and $-\dfrac{1}{7}$.

$\dfrac{1}{49} < \dfrac{1}{7}$

Therefore, the numbers listed from least to greatest are:

$^-49, \, ^-1, \, -\dfrac{1}{7}, \, -\dfrac{1}{49}$

So the number $-\dfrac{1}{49}$ is the greatest.

79. **(C)** Calculate the decimal equivalent of $-\dfrac{13}{11}$:

$-\dfrac{13}{11} = {}^-1.18181818... = {}^-1.\overline{18}$

---

80. **(H)** Each loaf of bread requires $\dfrac{1}{5}$ ounce of salt. Therefore, the baker can make 5 loaves of bread with 1 ounce of salt.

Multiply to find the number of loaves that can be made with 40 ounces of salt:

$5 \times 40 = 200$

81. **(D)** First, subtract to simplify.

$$\frac{1\frac{5}{7} - 1\frac{6}{7}}{3\frac{4}{7} - 3\frac{6}{7}} = \frac{-\frac{1}{7}}{-\frac{2}{7}} = -\frac{1}{7} \div -\frac{2}{7}$$

Follow the process for dividing fractions:

$$\left(-\frac{1}{7}\right) \times \left(-\frac{7}{2}\right) = \frac{7}{14} = \frac{1}{2}$$

82. **(F)** Split the compound inequality into two inequalities.

$$^-5 \leq 1 - 3x \text{ and } 1 - 3x \leq 4$$

For each inequality, subtract 1 from each side.

$$^-6 \leq {}^-3x \text{ and } {}^-3x \leq 3$$

For each inequality, divide both sides by $^-3$. Note that dividing each side of an inequality by a negative number changes the direction of the inequality.

$$2 \geq x \text{ and } x \geq {}^-1$$

Combining the pieces gives the compound inequality $^-1 \leq x \leq 2$.

The solution is that x is greater than or equal to $^-1$ and less than or equal to 2, so choose the number line with filled circles at $^-1$ and 2, with the filled segment between the circles.

83. **(D)** Set up a proportion:

$$\frac{1 \text{ sind}}{0.75 \text{ plunk}} = \frac{x \text{ sinds}}{8 \text{ plunks}}$$

$$1(8) = 0.75x$$

$$8 = \frac{75}{100}x$$

$$8 = \frac{3}{4}x$$

$$8\left(\frac{4}{3}\right) = x$$

$$\frac{32}{3} = x$$

$$10\frac{2}{3} = x$$

$$10.67 \approx x$$

84. **(F)** $8x - (7 + 2.5x) + 2$

First, distribute $^-1$ over $7 + 2.5x$:

$$8x - 7 - 2.5x + 2$$

Then combine the like terms:

$$5.5x - 5$$

The simplified form of the expression is $5.5x - 5$.

---

85. **(B)** Groups P and Q have an equal number of members. All the members of Group P are 17 or older, but only about $\frac{3}{4}$ of the members of Group Q are 17 or older.

86. **(G)** Jar Q contains 12 balls, and the probability of drawing a yellow ball at random is $\frac{1}{3}$.

$$\frac{1}{3} \times \frac{4}{4} = \frac{4}{12}$$

There are 4 yellow balls in Jar Q.

Jar R contains 8 balls, and the probability of drawing a yellow ball at random is $\frac{3}{4}$.

$$\frac{3}{4} \times \frac{2}{2} = \frac{6}{8}$$

There are 6 yellow balls in Jar R.

Jar S contains all the balls from Jar Q and Jar R.

$$12 + 8 = 20$$

There are 20 balls in Jar S.

$$4 + 6 = 10$$

There are 10 yellow balls in Jar S.

$$\frac{10}{20} \div \frac{10}{10} = \frac{1}{2}$$

The probability of drawing a yellow ball at random from Jar S is $\frac{1}{2}$.

87. **(D)** The ratio of pretzels to raisins in Gia's bag of snack mix, 12:9, is equivalent to the ratio of pretzels to raisins in Trevon's bag, 16:12.

$$\frac{12}{9} = \frac{16}{12} = \frac{4}{3}$$

88. **(G)** First, substitute $4x$ for each y in the expression:

$$3y + 2(3y + 5) - x =$$
$$3(4x) + 2[3(4x) + 5] - x$$

Then simplify the expression:

$$3(4x) + 2[3(4x) + 5] - x$$

$$12x + 2(12x + 5) - x$$

$$12x + 24x + 10 - x$$

$$12x + 24x - x + 10$$

$$35x + 10$$

The simplified expression is $35x + 10$.

89. **(C)** First, determine the area of each circle using the formula $A = \pi r^2$:

A circle with a diameter of 18 inches has a radius of 9 inches, so the area is $\pi(9)^2 = 81\pi$.

A circle with a diameter of 12 inches has a radius of 6 inches, so the area is $\pi(6)^2 = 36\pi$.

The difference between the two areas is $81\pi - 36\pi = 45\pi$.

---

90. **(F)** First, determine 10% of $|x|$.

$0.10 \cdot |x| =$
$0.10 \cdot |-4| =$
$0.10 \cdot 4 = 0.4$

Then determine the sum of x and 10% of $|x|$.

$^-4 + 0.4 = {}^-3.6$

The sum is $^-3.6$.

91. **(A)** The volume of a cube is $V = s^3$, where s is the length of one edge.

So $512 = s^3$, and $s = \sqrt[3]{512}$.

If you are not sure how to find the cube root, you can estimate.

We know
$10 \times 10 \times 10 = 10^3 = 1{,}000$, so $\sqrt[3]{1{,}000} = 10$.

Since 512 is less than 1,000, the answer must be less than 10. The only given option less than 10 is 8. Double-check to make sure this is correct:
$8^3 = 8 \times 8 \times 8 = 512$.

92. **(F)** The temperature on Tuesday was 84° F, which was 5% higher than the temperature on Monday.

This can be represented by the equation $84 = 1.05x$.

Dividing both sides of this equation by 1.05 gives $x = 80$.

Therefore, the temperature on Monday was 80° F.

Since the temperature on Wednesday was 10% lower than the temperature on Monday, the difference between the two temperatures would equal $(10\%)(80) = 8.0°$ F.

93. **(B)** First, determine all possible factors of 168. One method of doing this is to use a table to list pairs of factors.

Factors of 168	
1	168
2	84
3	56
4	42
6	28
7	24
8	21
12	14

Then determine the group of three sequential factors $(n - 1)$, n, and $(n + 1)$ where n is as large as possible. This group is 6, 7, and 8, where $n = 7$.

94. **(E)** The total number of days (86) is divided by the number of days in a week (7).

$86 \div 7 = 12$, with a remainder of 2

The 2 days are counted back from Tuesday, so the first performance was on a Sunday.

95. **(C)** Add the taxes to the amount of the check to find Michael's total pay before taxes were deducted:

213 + 32 = 245

Divide the total pay by the number of hours to find the hourly pay rate:

245 ÷ 20 = 12.25

96. **(G)** To find surface area, use the formula $A = 2(hw + hl + lw)$:

$A = 2[(20)(40) + (20)(50) + (50)(40)]$
$A = 2(800 + 1,000 + 2,000)$
$A = 2(3,800) = 7,600$

97. **(C)** The value of the car decreased $5,000 in two years: $15,000 to $10,000.

5,000 ÷ 2 = 2,500

Therefore, the value of the car decreases $2,500 each year. After the first 3 years, the car's value had decreased $7,500.

So 7,500 + 15,000 = 22,500.

98. **(F)** If Alana picks 4 blue disks in a row, the number of blue disks and the total number of disks will both decrease by 1 after each selection.

For the first selection, there are 4 blue disks out of 9 total disks, so the probability of selecting the first blue disk is $\frac{4}{9}$.

The probabilities of selecting blue for the next three selections are $\frac{3}{8}$, $\frac{2}{7}$, and $\frac{1}{6}$.

$$\frac{4}{9} \times \frac{3}{8} \times \frac{2}{7} \times \frac{1}{6} = \frac{24}{3,024} = \frac{1}{126}$$

99. (A) Rewrite the percent as a decimal:

$$\frac{1}{2}\% = 0.5\% = 0.005$$

So the correct answer must **not** equal 0.005:

Option A

$$\frac{0.005}{100} = 0.00005$$

Option B

$$\frac{\frac{1}{2}}{100} = 0.5 \div 100 = 0.005$$

Option C

$$\frac{5}{1,000} = 0.005$$

Option D

$$\frac{1}{200} = 0.005$$

All answer options except Option A equal 0.005. Therefore, Option A is the correct answer.

100. (H) To find out how many members there were in 2002, calculate 40% of 50 and then add it to 50.

$$50 \times 0.40 = 20$$

$$20 + 50 = 70 \text{ members}$$

To find out how many members there were in 2003, calculate 40% of 70 and then add it to 70.

$$70 \times 0.40 = 28$$

$$28 + 70 = 98 \text{ members}$$

To find out how many members there were in 2004, calculate 40% of 98 and then add it to 98.

$$98 \times 0.40 = 39.2$$

The result is 39.2, which is rounded to 39 to keep members to the nearest whole number.

$$39 + 98 = 137 \text{ members}$$

101. (D) $6x - 20 < 5x - 2(5 - 3x)$

Distribute the coefficient $^-2$ on the right-hand side:

$6x - 20 < 5x + (^-2)(5) + (^-2)(^-3x)$

$6x - 20 < 5x - 10 + 6x$

Subtract $6x$ from both sides:

$^-20 < 5x - 10$

Add 10 to both sides:

$^-10 < 5x$

Divide both sides by 5:

$^-2 < x$

This is equivalent to

$x > {}^-2$

102. (G) The ratio is red:white:blue = 2:5:3. Find the number of each color in a box of 30 paper clips.

$2x + 3x + 5x = 30$
$10x = 30$
$x = 3$

Red: $2x = 2(3) = 6$

White: $5x = 5(3) = 15$

Blue: $3x = 3(3) = 9$

If one paper clip of each color is removed (3 total), there will be 8 blue paper clips out of 27 in the box. The probability that the next paper clip chosen will be blue is $\frac{8}{27}$.

103. (B) Each option is divisible by 1, 2, 3, 4, 5, and 6.

Option A:

1,680 is evenly divisible by the first 8 positive integers.

Option B:

840 is evenly divisible by the first 8 positive integers and is less than 1,680.

Option C:

480 is not evenly divisible by 7.

$480 \div 7 = 68.57$

Option D:

420 is not evenly divisible by 8.

$420 \div 8 = 52.5$

Option B (840) is the correct answer.

104. (F) One method of solving the problem is to use a table to represent the sample space. Let the three colors be red, blue, and green.

PAINT COLORS

Window Frame	Door	Wall
Red	Blue	Green
Red	Green	Blue
Blue	Red	Green
Blue	Green	Red
Green	Red	Blue
Green	Blue	Red

There are 6 possible combinations of colors for the window frame, the door, and the wall where no two parts are painted the same color.

105. (D) Similar geometric figures have sides that are proportional.

$$\frac{10}{6} = \frac{x}{9}$$
$$\frac{5}{3} = \frac{x}{9}$$
$$x = \frac{(5)(9)}{3} = 15$$

Because MN = NP, both unknown sides are equal to 15. Therefore, the three sides of MNP are 15, 15, and 10. The perimeter of a triangle is the sum of its three side lengths.

$$15 + 15 + 10 = 40$$

106. (G) First, analyze the role of each variable in the expression $x^2 y z^3 |w|$.

x^2 will always be a positive number.

y can be a positive or a negative number.

z^3 can be a positive or a negative number.

$|w|$ will always be a positive number.

The expressions x^2 and $|w|$ will always be positive. Therefore, making the values of y and z negative would result in the expression yz^3 being positive, since a negative multiplied by a negative is positive. Thus the given product would always be positive.

107. (B) Use the joint probability formula:

P (black shirt first) • P (red shirt second, given black shirt first).

Initially there are 3 black shirts out of 6 total shirts, so the probability of picking a black shirt first is $\frac{3}{6}$.

Once a black shirt is picked first, there is 1 red shirt out of 5 total shirts remaining.

So the probability of picking a red shirt second, given that a black shirt was picked first, is $\frac{1}{5}$.

Then P (black shirt first) • P (red shirt second, given black shirt first)

$= \frac{3}{6} \cdot \frac{1}{5} = \frac{3}{30} = \frac{1}{10}$.

108. (E) The volume of a cube with a side length of s is

$V = s^3$

Since 125 small cubes were used to build the large cube, $125 = s^3$.

Each side of the large cube is made up of 5 small cubes.

$125 = 5^3$

Since 5 small cubes make up each edge of the large cube, and the edge of each small cube measures 1 inch, the measure of each edge of the large cube is

$1 \times 5 = 5$ inches.

109. (A) The probability of Davina picking an odd-numbered ball from Box B is $\frac{2}{3}$. If Davina places an odd-numbered ball in Box A, then the probability of Yusuf picking an odd-numbered ball from Box A is $\frac{1}{3}$. The probability of both of these events happening is the product of the two probabilities.

$\frac{2}{3} \times \frac{1}{3} = \frac{2}{9}$

110. (E) Since $|x + 1| \geq 2$, either

$x + 1 \leq {}^{-}2$ or $x + 1 \geq 2$.

Solving $x + 1 \leq {}^{-}2$ for x gives $x \leq {}^{-}3$.

Solving $x + 1 \geq 2$ for x gives $x \geq 1$.

A filled circle on a number line represents "or equal to." So the correct number line representation has filled circles at $^{-}3$ and 1, with the number line filled to the left of $^{-}3$ for "less than" and to the right of 1 for "greater than."

---

111. (D) First, determine the area of the kitchen floor in square feet by multiplying the length and width:

$12 \times 7.5 = 90$ square feet

Next, determine the area of each square tile:

$$0.75 \times 0.75 = \frac{3}{4} \times \frac{3}{4} = \frac{9}{16}$$

The number of tiles needed is found by dividing the area of the floor by the area of the tiles:

$$90 \div \frac{9}{16} = 90 \times \frac{16}{9} = 160$$

112. (E) First, determine the number of tickets sold on Sunday, x, using the total number of tickets sold on Saturday and Sunday, 30,000, and the number of tickets sold on Saturday, $4x$.

$30,000 = 4x + x$

$30,000 = 5x$

$6,000 = x$

Then determine the number of tickets expected to be sold on Monday, y, using the number of tickets sold on Sunday, 6,000.

$6,000 = 3y$

$2,000 = y$

The number of tickets expected to be sold on Monday is 2,000.

113. (C) The original area of the field was 4,000 square meters.

$80 \times 50 = 4,000$

When the field was enlarged, the length increased by 15%, so the new length is 92 meters.

$80 \times 15\%$
$80 \times 0.15 = 12$
$80 + 12 = 92$

The width increased by 10 meters, so the new width is 60 meters.

$50 + 10 = 60$

The new area of the field is 5,520 square meters.

$92 \times 60 = 5,520$

The percent increase is found by finding the difference between the two areas and dividing the increase by the original area.

$5,520 - 4,000 = 1,520$
$1,520 \div 4,000 = 0.38 = 38\%$

114. (E) Since x and y are both negative integers, both x^2 and y^2 are positive.

Therefore, both $x^2 y$ and $x y^2$ are negative, and both $-x^2 y$ and $-x y^2$ are positive.

Because $x < y$ and both x and y are negative, $|y| < |x|$ and $y^2 < x^2$. So $\left|y^2\right| < \left|x^2\right|$.

Since $|y| < |x|$ and x and y are integers, $\left|x y^2\right| < \left|x^2 y\right|$.

So $x^2 y < x y^2$.

$-x y^2 = \left|x y^2\right|$ and $-x^2 y = \left|x^2 y\right|$

Therefore, $x^2 y < x y^2 < -x y^2 < -x^2 y$.

Form B

Sample Test – Answer Key

You can read explanations for each answer online here. If you are in 9th grade, you can find examples of additional types of math topics you might see on your test, here.

Answer Key for Sample Form B

1. B	14. G	27. B	40. E	53. D	66. E	79. C	92. F	105. D
2. F	15. B	28. G	41. B	54. H	67. B	80. H	93. B	106. G
3. C	16. H	29. B	42. E	55. D	68. F	81. D	94. E	107. B
4. G	17. C	30. H	43. D	56. G	69. A	82. F	95. C	108. E
5. A	18. F	31. B	44. H	57. A	70. F	83. D	96. G	109. A
6. E	19. A	32. H	45. C	58. -0.8	71. B	84. F	97. C	110. E
7. B	20. H	33. B	46. F	59. 5	72. H	85. B	98. F	111. D
8. H	21. A	34. F	47. C	60. 95	73. D	86. G	99. A	112. E
9. D	22. E	35. C	48. E	61. 21	74. E	87. D	100. H	113. C
10. G	23. A	36. F	49. A	62. 32	75. D	88. G	101. D	114. E
11. B	24. E	37. B	50. F	63. A	76. E	89. C	102. G	
12. H	25. D	38. E	51. B	64. F	77. B	90. F	103. B	
13. D	26. H	39. D	52. G	65. C	78. E	91. A	104. F	

Grade 9   Mathematics Sample Questions

Blank grids are provided on page 286.

1. The side length of a certain square microchip, expressed in scientific notation, is 1.2×10^{-3} meter. If the area of this microchip is expressed in scientific notation as $b \times 10^a$ square meter, what is the value of a?

2. A company surveyed 800 people about their use of Soap L and Soap M. The table shows the results.

SOAP SURVEY

	Use Soap M	Do Not Use Soap M
Use Soap L	148	252
Do Not Use Soap L	264	136

Based on the results, of those who do **not** use Soap L, x% use Soap M. What is the value of x, expressed as a whole number?

3. The values in the table represent a function. What value of R makes the function linear?

x	y
−4	2
−1	−1
3	R

4. What is the distance, in units, between the points (3, 20) and (11, 5)?

E. 8
F. 15
G. 17
H. 23

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5. $3(x - 4) + 4x = 4 - x + 8(6 + x)$

What is the solution to the equation shown above?

A. $x = 8$

B. $x = 65$

C. no solution

D. infinite number of solutions

6. Which expression represents a rational number?

E. $\dfrac{3}{8}$

F. π

G. $\sqrt{3}$

H. $\sqrt{83}$

7. Which expression is equivalent to $\dfrac{6^{-10}}{6^2}$?

A. -6^8

B. $\dfrac{1}{6^{12}}$

C. 6^{-5}

D. 6^{12}

8. Which table best represents a linear function?

E.

x	y
−3	5
−1	3
0	1

F.

x	y
−2	7
−1	4
0	3

G.

x	y
−4	−17
−3	−12
1	8

H.

x	y
−1	3
0	3
2	5

9. The diameter of Biological Cell A is 6×10^{-7} meter. The diameter of Biological Cell B is 3×10^{-8} meter. Which statement correctly compares the diameters of these two cells?

A. The diameter of Cell A is 2 times the diameter of Cell B.

B. The diameter of Cell B is 2 times the diameter of Cell A.

C. The diameter of Cell A is 20 times the diameter of Cell B.

D. The diameter of Cell B is 20 times the diameter of Cell A.

10.

SOCCER DATA

Player	Seasons Played	Goals Scored
Isabella	3	5
Porter	6	10
Jazmine	4	6
Colin	1	3

The data in the table show the number of seasons some players on a soccer team played versus the number of goals they scored. Which conclusion is supported by the data?

E. There are multiple outliers in the data set.

F. There is a positive association between seasons played and goals scored.

G. There is a negative association between seasons played and goals scored.

H. There is no association between seasons played and goals scored.

11. What is the value of y when

$0.25(y + 8) = 15$?

A. 1.75

B. 3.25

C. 28

D. 52

12. What is the volume, in cubic inches, of a beach ball with a diameter of 24 inches?

E. 48π

F. 256π

G. 576π

H. $2,304\pi$

13. How many integers, n, satisfy the condition $5 < \sqrt{n} < 6$?

A. 0

B. 5.5

C. 10

D. 11

Grade 9
Mathematics Explanations of Correct Answers

1. **(⁻6)** Since the microchip is a square, the area of the microchip is $\left(1.2 \times 10^{-3}\right)^2$ square meter.

$$\left(1.2 \times 10^{-3}\right)^2 =$$
$$(1.2)^2 \times \left(10^{-3}\right)^2 =$$
$$1.44 \times 10^{-6}$$

So the value of a, the exponent, is ⁻6.

---

2. **(66)** First, determine the number of people who do not use Soap L.

$$264 + 136 = 400$$

Then determine what percentage of those people use Soap M.

$$\frac{264}{400} = 0.66 = 66\%$$

Since 66% of the people who do not use Soap L use Soap M, the value of x is 66.

3. **(⁻5)** A linear function consists of ordered pairs that make a linear equation true, with a consistent slope, m, and a y-intercept, b. Use the slope formula and the two given ordered pairs to determine the slope.

$$m = \frac{2 - (^-1)}{^-4 - (^-1)} = \frac{3}{^-3} = {}^-1$$

Then use the slope and one of the given ordered pairs to determine the y-intercept. The equation is in slope-intercept form.

$$y = (^-1)x + b$$
$$2 = (^-1)(^-4) + b$$
$$2 = 4 + b$$
$$^-2 = b$$

Use the slope and the y-intercept to determine the value of R. The equation is in slope-intercept form.

$$y = (^-1)x + {}^-2$$
$$R = (^-1)(3) + {}^-2$$
$$R = {}^-3 + {}^-2$$
$$R = {}^-5$$

4. **(G)** Use the Pythagorean theorem, $A^2 + B^2 = C^2$, to find the distance between the two given points. A right triangle can be drawn in the coordinate system, using the two given points as vertices.

To determine the lengths of the legs of the right triangle, find the absolute values of the difference between the x-coordinates and the difference between the y-coordinates:

$$\left|3 - 11\right| = 8$$

$$\left|20 - 5\right| = 15$$

Use the lengths of the legs, 8 units and 15 units, to determine the length of the hypotenuse, h, which is the distance, in units, between the two given points:

$$8^2 + 15^2 = h^2$$

$$64 + 225 = h^2$$

$$289 = h^2$$

$$\sqrt{289} = h$$

$$17 = h$$

The length of the hypotenuse is 17 units.

5. **(C)** First simplify the equation:

$$3(x - 4) + 4x = 4 - x + 8(6 + x)$$

$$3x - 12 + 4x = 4 - x + 48 + 8x$$

$$3x + 4x - 12 = 4 + 48 - x + 8x$$

$$7x - 12 = 52 + 7x$$

$$(7x - 7x) - 12 = 52 + (7x - 7x)$$

$$0 - 12 = 52 + 0$$

$$^-12 = 52$$

Since $^-12 = 52$ is not a true statement, there is no solution to the given equation.

6. **(E)** Since rational numbers have a decimal expansion that terminates or repeats, determine the decimal expansion of the number in each option. The option that represents a number with a decimal expansion that terminates or repeats is a rational number.

Option E:

$$\frac{3}{8} = 0.375$$

Option F

$\pi = 3.14159...$

Option G

$\sqrt{3} = 1.73205...$

Option H

$\sqrt{83} = 9.11043...$

Option E has a decimal expansion that terminates; therefore, it is a rational number. The decimal expansions for the other options do not terminate or repeat.

7. **(B)** Use the properties of integer exponents to generate a numerical expression that is equivalent to the given expression:

$$\frac{6^{-10}}{6^2} = \frac{1}{6^2 \times 6^{10}} = \frac{1}{6^{12}}$$

The given expression is equivalent to $\frac{1}{6^{12}}$.

8. **(G)** Use the slope formula to determine the slope, m, between the ordered pairs in the table. If the slope between each pair of ordered pairs is the same, then the function is linear.

Using the ordered pairs $(-4, -17)$ and $(-3, -12)$:

$$m = \frac{-17 - (-12)}{-4 - (-3)} = \frac{-5}{-1} = 5$$

Using the ordered pairs $(-3, -12)$ and $(1, 8)$:

$$m = \frac{-12 - 8}{-3 - 1} = \frac{-20}{-4} = 5$$

The slopes match, so this is a linear function.

So the table in Option G is the one that represents a linear function.

9. **(C)** First, translate both cell diameters to standard form:

$$6 \times 10^{-7} = 0.0000006$$

$$3 \times 10^{-8} = 0.00000003$$

Then, use division to compare the two numbers:

$0.0000006 \div 0.00000003 = 20$

The diameter of Biological Cell A is 20 times the diameter of Biological Cell B.

10. **(F)** First, reorder the ordered pairs so that the numbers of seasons played, x, are increasing:

(1, 3), (3, 5), (4, 6), (6, 10)

Then examine the numbers of goals scored, y, to determine whether there is a pattern.

The pattern is that as x increases, so does y. This exemplifies a positive association between x, the number of seasons played, and y, the number of goals scored.

11. **(D)** Use properties of equations to determine the value of y in the given equation:

$0.25(y + 8) = 15$

$0.25y + 2 = 15$

$0.25y = 13$

$\dfrac{0.25y}{0.25} = \dfrac{13}{0.25}$

$y = 52$

12. (H) The formula for the volume of a sphere is $V = \frac{4}{3}\pi r^3$.

The diameter of the ball is 24 inches, so the radius, r, is 12 inches.

$$V = \frac{4}{3}\pi(12)^3 = 2{,}304\pi$$

13. (C) Since 5 is the square root of 25, and 6 is the square root of 36, the values of n that satisfy the given condition are all the integers greater than 25 and less than 36. That set of integers is {26, 27, 28, 29, 30, 31, 32, 33, 34, 35}. There are 10 numbers in the set, so Option C is the correct answer.

Answer Key for Grade 9 Mathematics

1. -6	6. E	11. D
2. 66	7. B	12. H
3. -5	8. G	13. C
4. G	9. C	
5. C	10. F	

Grade 8   Grid-In Sample Problems

DIRECTIONS: Solve each question. You can use the extra grid-in answer sheet on page 288 to record your answers. Print only one number or symbol in each box. Under each box, fill in the circle that matches the number or symbol you wrote above. **DO NOT FILL IN A CIRCLE UNDER AN UNUSED BOX. DO NOT LEAVE A BOX BLANK IN THE MIDDLE OF AN ANSWER.**

1. Olivia is building a frame for a painting. The painting is 24 inches high and 18 inches wide. She wants the height of the framed painting to be 125% of the height of the painting. The width of the frame around the painting will be the same on all sides, as shown in the diagram. What is x, the width of the frame, in inches?
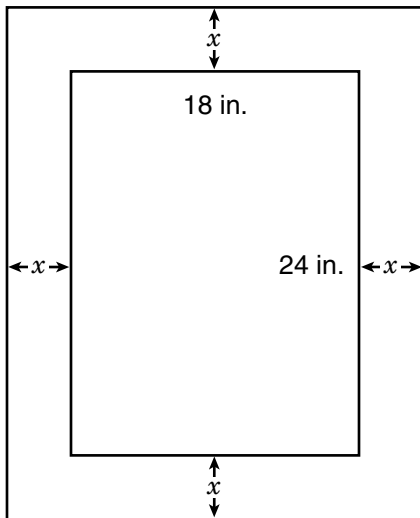
2. $-6.7, 5\frac{1}{2}, 3.4, -2\frac{3}{4}$

What is the sum of the numbers shown above, expressed as a decimal?

---

3. A landscape architect drew a plan for a flower bed in a park. The plan is shown.
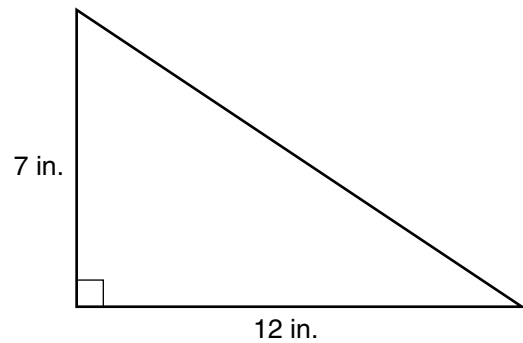
The plan has a scale of $\frac{1}{2}$ inch = 3 feet. What is the area of the actual flower bed, in square feet?

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4. Sebastian is tossing a coin and spinning a spinner that has 2 red sections, 3 yellow sections, and 1 blue section, all the same size. What is the probability, expressed as a decimal, that Sebastian randomly tosses heads on the coin and spins yellow on the spinner?
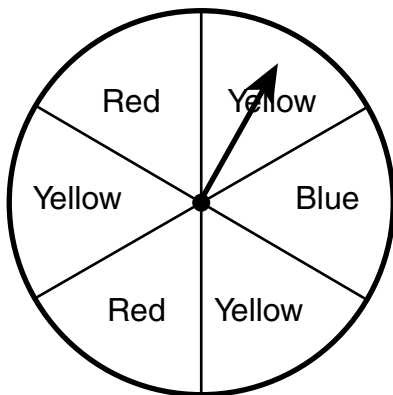
5. Ivan paid $2.31 in sales tax on an item with an original price of $42.00. Given the same sales tax rate, an item with an original price of $64.00 has a sales tax of x. What is the value of x? (Express your answer as a decimal.)

6. In the figure shown,
$m\angle WTL = 2(2x - 1)$,
$m\angle LTS = 5x + 6$, $m\angle STR = 11x - 4$,
and $m\angle QTR = 3x + 7$.
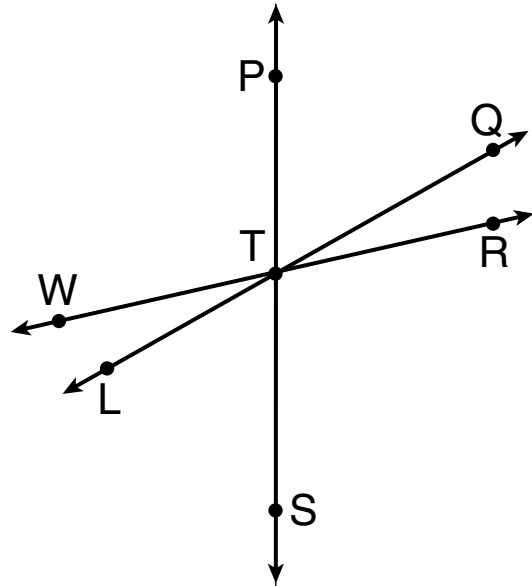
What is the measure, in degrees, of $\angle PTQ$?

7. What is $\dfrac{7}{8}$ in decimal form?

8. A bookstore manager will randomly select 2 of 9 different recently arrived books to place in a window display. How many possible pairs of selections are there? (The order of the two books in the window display does not matter.)

9. $pt^3 + p^3t$

What is the value of the expression above when $p = 3$ and $t = {}^-2$?

10. What is the product of $\dfrac{3}{8}$ and 0.6, expressed as a decimal?

1. **(3)** The painting is 24 inches high. Olivia wants the height of the frame to be 125% the height of the painting. The width of the frame will be the same on all sides.

Multiply the height of the painting by 125% to find the height of the frame, in inches.

$24 \times 1.25 = 30$

Since the height of the painting is already 24 inches, that leaves 6 inches of frame divided by 2 for the top and bottom. Therefore, x is 3 inches.

2. **($^{-}$0.55)** Convert the fractions to decimals:

$^{-}6.7 + 5.5 + 3.4 + (^{-}2.75) =$

$^{-}6.7 + 5.5 + 3.4 - 2.75 = {}^{-}0.55$

3. **(1512)** The scale is $\frac{1}{2}$ inch = 3 feet. Use that scale to find the base, b, and height, h, of the actual flower bed.

$$\frac{\frac{1}{2}}{3} = \frac{12}{b}$$

$$\frac{1}{2}b = 36$$

$$b = 72$$

$$\frac{\frac{1}{2}}{3} = \frac{7}{h}$$

$$\frac{1}{2}h = 21$$

$$h = 42$$

The formula for the area of a triangle is

$$A = \frac{1}{2} \text{ base } \times \text{ height.}$$

$$A = \frac{1}{2}bh = \frac{1}{2}(72)(42)$$

$$A = \frac{1}{2}(3,024) = 1,512$$
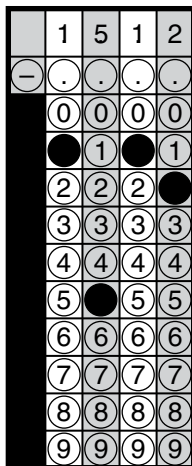
4. **(0.25)** The probability of tossing heads on the coin is 1 out of 2, which is $\frac{1}{2}$.

The probability of spinning yellow on the spinner is 3 out of 6, which is $\frac{3}{6}$ or $\frac{1}{2}$.

The probability of both of these events occurring is the product of the probabilities.

$$\frac{1}{2} \times \frac{1}{2} = 0.25$$
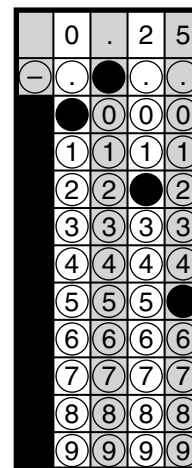
5. **(3.52)** Set up a proportion to solve.

$$\frac{2.31}{42} = \frac{x}{64}$$

$$(64)\left(\frac{2.31}{42}\right) = x$$

$$3.52 = x$$

(Grid: 3 . 5 2)
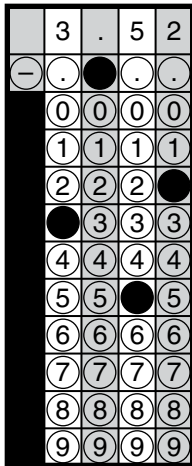
6. **(51)** Angles ∠WTL and ∠QTR are congruent because they are vertical angles.

Therefore, $m\angle WTL = m\angle QTR$, so $2(2x - 1) = 3x + 7$.

Distributing 2 gives $4x - 2 = 3x + 7$.

Subtracting $3x$ from both sides gives $x - 2 = 7$.

$x - 2 + 2 = 7 + 2$

Adding 2 to each side gives $x = 9$.

Angles ∠PTQ and ∠LTS are congruent because they are vertical angles.

Therefore, $m\angle PTQ = m\angle LTS = 5x + 6$.

So

$m\angle PTQ = 5(9) + 6 = 45 + 6 = 51$.

(Grid: 5 1)
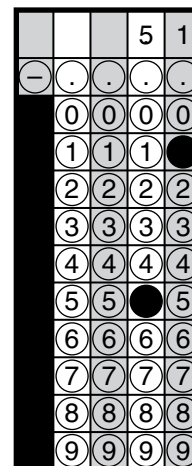
7. **(.875)** $\frac{7}{8} = 7 \div 8 = .875$

8. **(36)** When selecting a pair of books, the order of the books does not matter.

There are 9 books that can be selected for the first book in the pair.

There are 8 books that can be selected for the second book in the pair.

Therefore, there are 72 permutations of books.

However, each pair is repeated twice because the order in which the books were selected does not matter.

Since each pair is represented twice, divide $\frac{72}{2} = 36$ to show there are 36 pairs of books that can be selected.

9. **(−78)** Substitute the values of p (3) and t (−2) and solve.

$$pt^3 + p^3t = 3(-2)^3 + 3^3(-2) =$$

$$3(-8) + 27(-2) = {}^-24 - 54 = {}^-78$$

10. **(.225)** $\frac{3}{8}$ = 3 ÷ 8 = 0.375

$$0.375 \times 0.6 = 0.225$$

Answer Key for Grid-In Mathematics

1. 3	6. 51
2. -0.55	7. .875
3. 1512	8. 36
4. 0.25	9. -78
5. 3.52	10. .225

2024

NEW YORK CITY PUBLIC SCHOOLS
SPECIALIZED HIGH SCHOOLS ADMISSIONS TEST
GRADE 8

USE A PENCIL ONLY

8

1. STUDENT STATEMENT: I am a New York City resident. I am in Grade 8. This is a test for students in grade 8. I understand that if I take the test at the wrong grade level, my score will not be able to be used for placement in the specialized high schools. I am well enough to take this test and complete it. If I do not feel well, I will notify the teacher. I understand that once I break the seal of the test booklet, I may not be eligible for a make-up test.

Signature (full name - include your first and last name): _____

2. TODAY'S DATE: _____   **3. DATE OF BIRTH:** _____

Month   Day   Year   Month   Day   Year

CAREFULLY PRINT AND BUBBLE YOUR NAME, DATE OF BIRTH, INFORMATION ABOUT THE SCHOOL WHERE YOU ARE NOW ENROLLED, AND STUDENT ID NUMBER. USE A PENCIL ONLY. INCORRECT MARKS MAY DELAY THE SCORING OF YOUR ANSWER SHEET.

4. FIRST NAME (please print)   **MI**   **LAST NAME (surname) (please print)**

5. SCHOOL CURRENTLY ENROLLED

NAME OF SCHOOL

School Code

P — Fill in for private or parochial schools only

6. DATE OF BIRTH

Month	Day	Year

7. STUDENT ID NUMBER

8. BOOKLET LETTER AND NUMBER

NEW YORK CITY PUBLIC SCHOOLS
2024 SPECIALIZED HIGH SCHOOLS ADMISSIONS TEST
GRADE 8

USE A PENCIL ONLY

SIDE 2

_____ _____
Test Booklet Letter   Test Booklet Number

_____ _____
Student's First Name (please print)   Student's Last Name (please print)

PART 1   ENGLISH LANGUAGE ARTS

1 Ⓐ Ⓑ Ⓒ Ⓓ	16 Ⓔ Ⓕ Ⓖ Ⓗ	31 Ⓐ Ⓑ Ⓒ Ⓓ	46 Ⓔ Ⓕ Ⓖ Ⓗ
2 Ⓔ Ⓕ Ⓖ Ⓗ	17 Ⓐ Ⓑ Ⓒ Ⓓ	32 Ⓔ Ⓕ Ⓖ Ⓗ	47 Ⓐ Ⓑ Ⓒ Ⓓ
3 Ⓐ Ⓑ Ⓒ Ⓓ	18 Ⓔ Ⓕ Ⓖ Ⓗ	33 Ⓐ Ⓑ Ⓒ Ⓓ	48 Ⓔ Ⓕ Ⓖ Ⓗ
4 Ⓔ Ⓕ Ⓖ Ⓗ	19 Ⓐ Ⓑ Ⓒ Ⓓ	34 Ⓔ Ⓕ Ⓖ Ⓗ	49 Ⓐ Ⓑ Ⓒ Ⓓ
5 Ⓐ Ⓑ Ⓒ Ⓓ	20 Ⓔ Ⓕ Ⓖ Ⓗ	35 Ⓐ Ⓑ Ⓒ Ⓓ	50 Ⓔ Ⓕ Ⓖ Ⓗ
6 Ⓔ Ⓕ Ⓖ Ⓗ	21 Ⓐ Ⓑ Ⓒ Ⓓ	36 Ⓔ Ⓕ Ⓖ Ⓗ	51 Ⓐ Ⓑ Ⓒ Ⓓ
7 Ⓐ Ⓑ Ⓒ Ⓓ	22 Ⓔ Ⓕ Ⓖ Ⓗ	37 Ⓐ Ⓑ Ⓒ Ⓓ	52 Ⓔ Ⓕ Ⓖ Ⓗ
8 Ⓔ Ⓕ Ⓖ Ⓗ	23 Ⓐ Ⓑ Ⓒ Ⓓ	38 Ⓔ Ⓕ Ⓖ Ⓗ	53 Ⓐ Ⓑ Ⓒ Ⓓ
9 Ⓐ Ⓑ Ⓒ Ⓓ	24 Ⓔ Ⓕ Ⓖ Ⓗ	39 Ⓐ Ⓑ Ⓒ Ⓓ	54 Ⓔ Ⓕ Ⓖ Ⓗ
10 Ⓔ Ⓕ Ⓖ Ⓗ	25 Ⓐ Ⓑ Ⓒ Ⓓ	40 Ⓔ Ⓕ Ⓖ Ⓗ	55 Ⓐ Ⓑ Ⓒ Ⓓ
11 Ⓐ Ⓑ Ⓒ Ⓓ	26 Ⓔ Ⓕ Ⓖ Ⓗ	41 Ⓐ Ⓑ Ⓒ Ⓓ	56 Ⓔ Ⓕ Ⓖ Ⓗ
12 Ⓔ Ⓕ Ⓖ Ⓗ	27 Ⓐ Ⓑ Ⓒ Ⓓ	42 Ⓔ Ⓕ Ⓖ Ⓗ	57 Ⓐ Ⓑ Ⓒ Ⓓ
13 Ⓐ Ⓑ Ⓒ Ⓓ	28 Ⓔ Ⓕ Ⓖ Ⓗ	43 Ⓐ Ⓑ Ⓒ Ⓓ	
14 Ⓔ Ⓕ Ⓖ Ⓗ	29 Ⓐ Ⓑ Ⓒ Ⓓ	44 Ⓔ Ⓕ Ⓖ Ⓗ	
15 Ⓐ Ⓑ Ⓒ Ⓓ	30 Ⓔ Ⓕ Ⓖ Ⓗ	45 Ⓐ Ⓑ Ⓒ Ⓓ	

PART 2   MATHEMATICS

Gridded-response questions 58, 59, 60, 61, 62 — each with a sign box and four digit columns (0–9).

63 Ⓐ Ⓑ Ⓒ Ⓓ	76 Ⓔ Ⓕ Ⓖ Ⓗ	89 Ⓐ Ⓑ Ⓒ Ⓓ	102 Ⓔ Ⓕ Ⓖ Ⓗ
64 Ⓔ Ⓕ Ⓖ Ⓗ	77 Ⓐ Ⓑ Ⓒ Ⓓ	90 Ⓔ Ⓕ Ⓖ Ⓗ	103 Ⓐ Ⓑ Ⓒ Ⓓ
65 Ⓐ Ⓑ Ⓒ Ⓓ	78 Ⓔ Ⓕ Ⓖ Ⓗ	91 Ⓐ Ⓑ Ⓒ Ⓓ	104 Ⓔ Ⓕ Ⓖ Ⓗ
66 Ⓔ Ⓕ Ⓖ Ⓗ	79 Ⓐ Ⓑ Ⓒ Ⓓ	92 Ⓔ Ⓕ Ⓖ Ⓗ	105 Ⓐ Ⓑ Ⓒ Ⓓ
67 Ⓐ Ⓑ Ⓒ Ⓓ	80 Ⓔ Ⓕ Ⓖ Ⓗ	93 Ⓐ Ⓑ Ⓒ Ⓓ	106 Ⓔ Ⓕ Ⓖ Ⓗ
68 Ⓔ Ⓕ Ⓖ Ⓗ	81 Ⓐ Ⓑ Ⓒ Ⓓ	94 Ⓔ Ⓕ Ⓖ Ⓗ	107 Ⓐ Ⓑ Ⓒ Ⓓ
69 Ⓐ Ⓑ Ⓒ Ⓓ	82 Ⓔ Ⓕ Ⓖ Ⓗ	95 Ⓐ Ⓑ Ⓒ Ⓓ	108 Ⓔ Ⓕ Ⓖ Ⓗ
70 Ⓔ Ⓕ Ⓖ Ⓗ	83 Ⓐ Ⓑ Ⓒ Ⓓ	96 Ⓔ Ⓕ Ⓖ Ⓗ	109 Ⓐ Ⓑ Ⓒ Ⓓ
71 Ⓐ Ⓑ Ⓒ Ⓓ	84 Ⓔ Ⓕ Ⓖ Ⓗ	97 Ⓐ Ⓑ Ⓒ Ⓓ	110 Ⓔ Ⓕ Ⓖ Ⓗ
72 Ⓔ Ⓕ Ⓖ Ⓗ	85 Ⓐ Ⓑ Ⓒ Ⓓ	98 Ⓔ Ⓕ Ⓖ Ⓗ	111 Ⓐ Ⓑ Ⓒ Ⓓ
73 Ⓐ Ⓑ Ⓒ Ⓓ	86 Ⓔ Ⓕ Ⓖ Ⓗ	99 Ⓐ Ⓑ Ⓒ Ⓓ	112 Ⓔ Ⓕ Ⓖ Ⓗ
74 Ⓔ Ⓕ Ⓖ Ⓗ	87 Ⓐ Ⓑ Ⓒ Ⓓ	100 Ⓔ Ⓕ Ⓖ Ⓗ	113 Ⓐ Ⓑ Ⓒ Ⓓ
75 Ⓐ Ⓑ Ⓒ Ⓓ	88 Ⓔ Ⓕ Ⓖ Ⓗ	101 Ⓐ Ⓑ Ⓒ Ⓓ	114 Ⓔ Ⓕ Ⓖ Ⓗ

Blank Math Grid-ins to be used with sample items.