

# Reading and Writing

## Module 1 (27 questions)

### QUESTION 1

**Choice B** is the best answer because it most logically completes the text's discussion of Marilyn Dingle's baskets. In this context, to say that Dingle's baskets are "handmade from" particular plants means that Dingle creates baskets herself using those plants but without using machines. The text says that Dingle "skillfully winds" parts of palmetto palm plants around sweetgrass plants to make baskets with an appearance that "no factory can reproduce." This context suggests that Dingle's baskets are handmade from sweetgrass and palmetto palm.

**Choice A** is incorrect because the text describes how Dingle uses sweetgrass and palmetto palm to create her baskets, not how her baskets are "indicated by," or signified by, sweetgrass and palmetto palm. **Choice C** is incorrect.

Although Dingle's baskets are described as being made using sweetgrass and palm, there's nothing in the text to suggest that the baskets are "represented by," or exemplified or portrayed by, sweetgrass and palmetto palm. Instead, the focus of the text is on Dingle's use of sweetgrass and palmetto palm and the impossibility of replicating the appearance of her baskets using machines. **Choice D** is incorrect because there's nothing in the text to suggest that Dingle's baskets are "collected with," or brought together in a group with, sweetgrass and palmetto palm. Instead, the text describes how Dingle uses those plants to make her baskets.

### QUESTION 2

**Choice D** is the best answer because it logically completes the text's discussion about genes related to hibernation. In this context, "dormant" means inactive. The text explains that the same genes that enable certain nonhuman mammal species to hibernate during the winter by altering their bodily processes are also found in our species but have "essentially no effect" on humans' bodily processes. In other words, these genes don't function in humans.

**Choice A** is incorrect because in this context, "decisive" means has the power to affect the outcome of something, but the text states that genes related to hibernation are instead inactive in humans—that is, the genes don't affect humans' bodily processes, although they are present in their bodies. **Choice B** is incorrect because in this context, "lacking" means missing, but the text states that the genes are present in humans, though inactive. **Choice C** is incorrect because "variable" means characterized by the potential to change, but the text indicates that these genes don't change in their effect on humans' bodily processes; instead, the genes are consistently inactive in humans.

## QUESTION 3

**Choice C** is the best answer because it most logically completes the discussion of the artist Diego Velázquez's influence outside Spain. As used in this context, "confined to" means restricted to. The text says that Velázquez was the leading artist in the Spanish court during the seventeenth century, but it also notes that other painters around the world were influenced by his techniques and style. Thus, Velázquez's influence was hardly (or almost not) confined to, or restricted to, Spain.

*Choice A* is incorrect because if Velázquez was a leading artist in Spain, it doesn't make logical sense to claim that his influence was hardly (or almost not) derived from, or obtained from, Spain. Moreover, the other painters around the world who employed Velázquez's techniques would by definition be influenced by Spanish style. *Choice B* is incorrect because if Velázquez was a leading artist in the court of King Philip IV of Spain, then his influence must have been widely recognized, or acknowledged, rather than being hardly (or almost not) recognized. *Choice D* is incorrect because the text gives no indication that deliberately limiting Velázquez's influence outside Spain was ever considered by anyone. Thus, even if it is true that his influence was not repressed, or restrained, it doesn't make logical sense to say so in this context.

## QUESTION 4

**Choice B** is the best answer because it most logically completes the discussion of Octavia Butler's career. In this context, "impenetrable" means impossible to enter. The text indicates that the field of science fiction was dominated by white males when Butler, a Black woman, started writing, but she published several science fiction short stories and a novel and later won a prestigious award; that is, Butler pursued science fiction writing and had success. This context suggests that Butler didn't view the genre as impossible to enter.

*Choice A* is incorrect. In this context, "legitimate" would mean genuinely good or valid. Nothing in the text suggests that Butler didn't think the science fiction genre was good or valid; in fact, it indicates that she pursued and made a successful career of publishing work in that field. *Choice C* is incorrect. In this context, "compelling" would mean attracting or demanding attention. The text indicates that Butler chose to write science fiction, so it wouldn't make sense to say that she didn't see the field as drawing her attention. *Choice D* is incorrect. To say that Butler didn't consider science fiction "indecipherable," or impossible to understand, would suggest that Butler did understand it. However, the text doesn't address Butler's ability to interpret works in the genre; rather, it focuses on Butler's successful pursuit of writing science fiction.

## QUESTION 5

**Choice A** is the best answer because as used in the text, "assumed" most nearly means acquired, or came to possess. The text portrays a character named Drowne carving a figure out of wood. At first "irregular and misty," or haphazard and indistinct, the figure's outline gradually showed "distincter grace and beauty" until the general design of the carved object "was now obvious to the common eye," or plainly recognizable to anyone. In other words, as Drowne continued to carve, the wooden object came to possess, or acquired, greater precision, changing from an indistinct outline or shape into a graceful, beautiful, and clearly recognizable form.

*Choice B* is incorrect. Although in some contexts "assumed" can mean acknowledged, or recognized, it doesn't have that meaning in this context because an inanimate object like the wooden figure can't acknowledge its own precision. *Choice C* is incorrect because there's nothing in the text to suggest

that the wooden figure merely imitated, or mimicked, precision. Rather, the text suggests that as Drowne carved his wooden figure, it gradually became more precise. *Choice D* is incorrect. Although in some contexts “assumed” can mean speculated, or supposed based on incomplete information, it doesn’t have that meaning in this context because an inanimate object like the wooden figure can’t speculate about its own precision.

## QUESTION 6

**Choice D** is the best answer because it best describes the overall structure of the text. The speaker begins by stating that he has heard that others are accusing him of seeking to destroy institutions. The speaker then addresses this criticism by stating that he is “neither for nor against institutions.” Instead, the speaker states that his ultimate goal is to instill “the institution of the dear love of comrades” everywhere in the country. Therefore, the overall structure of the text is best described as an address of criticism followed by an announcement of a grand ambition.

*Choice A* is incorrect. While the speaker does address an opinion of him that he believes to be untrue, he doesn’t indicate that this attitude has become increasingly prevalent. The speaker also concludes by explaining his goal for the future rather than his current worldview. *Choice B* is incorrect because the text doesn’t portray the speaker as isolated or regretful, and the speaker gestures toward a hope for societal change but doesn’t offer an explicit prediction that it will happen. *Choice C* is incorrect because the speaker addresses a criticism of him that he believes to be false; he doesn’t admit any personal shortcomings. Moreover, the speaker concludes by stating a goal he has rather than showcasing his achievements.

## QUESTION 7

**Choice A** is the best answer because it presents an explanation that is directly stated in the text for why ecologists are worried about Pando. The text states that Pando is a colony of about 47,000 quaking aspen trees that represents one of the largest organisms on Earth. According to the text, ecologists are worried that Pando’s growth is declining, partly because animals are feeding on the trees. In other words, the ecologists are worried that Pando isn’t growing at the same rate it used to.

*Choice B* is incorrect. Rather than indicating that Pando isn’t producing young trees anymore, the text reveals that Pando is indeed producing young trees, stating that those trees can be protected from grazing deer by strong fences. *Choice C* is incorrect because the text states that fences can be used to prevent deer from eating Pando’s young trees, not that Pando itself can’t grow in new areas because it’s blocked by fences. *Choice D* is incorrect because the text offers no evidence that Pando’s root system is incapable of supporting new trees or is otherwise a cause of worry for ecologists.

## QUESTION 8

**Choice A** is the best answer because it explains how the researchers determined the level of surprise displayed by the cats in the study. The text states that Saho Takagi and colleagues played recordings of the voice of each cat’s owner and measured how surprised the cat was by the recording based on how it moved its ears and head.

*Choice B* is incorrect because, as the text explains, the recordings played for each cat in the study were of the voice of the cat’s owner, not a stranger’s voice. *Choice C* is incorrect because the text explains that during the study,

the cats didn't interact directly with their owners; instead, the cats listened to recordings of their owners' voices. *Choice D* is incorrect because the text doesn't indicate that the researchers monitored the cats' movement around the room in which the study was conducted.

## QUESTION 9

**Choice A** is the best answer because it most accurately states the main idea of the text. The text describes the book *Vibration Cooking: or, the Travel Notes of a Geechee Girl* as Smart-Grosvenor's "most influential project" and as "unusual for its time." The text also notes that the book and author have influenced contemporary approaches to writing about food and cooking. Therefore, the text mainly conveys that *Vibration Cooking: or, the Travel Notes of a Geechee Girl* is an unconventional and important contribution to food writing.

*Choice B* is incorrect. Although the text mentions that Smart-Grosvenor worked in national public television and radio and was a food writer, these details aren't the main focus. Rather than focusing on Smart-Grosvenor's various jobs, the text focuses specifically on one specific book she wrote. *Choice C* is incorrect. Although the text suggests that *Vibration Cooking: or, the Travel Notes of a Geechee Girl* was groundbreaking, it doesn't suggest that the book didn't receive praise when it was published. In fact, the text states that the book is "long admired." *Choice D* is incorrect because the text states that Smart-Grosvenor was a culinary anthropologist and that her book influenced later approaches to food writing but doesn't indicate that Smart-Grosvenor or her book influenced people to begin cooking for themselves.

## QUESTION 10

**Choice D** is the best answer because it most effectively uses a quotation from *O Pioneers!* to illustrate the claim that Alexandra Bergson takes comfort in understanding the world around her. In the quotation, Alexandra is described as enjoying looking at the stars and feeling a "sense of personal security" when she contemplates nature's order and its governing laws. This suggests that Alexandra takes comfort in understanding the world around her.

*Choice A* is incorrect because the quotation expresses how Alexandra Bergson attempts to meet difficult situations with determination, not how she takes comfort in understanding the world around her. *Choice B* is incorrect because the quotation expresses "how much the country meant to" Alexandra Bergson, not how she takes comfort in understanding the world around her. In detailing some of the wildlife surrounding Alexandra, the quotation conveys that nature is important to her but not necessarily that it gives her comfort. *Choice C* is incorrect because the quotation describes Alexandra driving her wagon down a highway at night; it doesn't describe how she takes comfort in understanding the world around her or address how she's feeling as she drives off.

## QUESTION 11

**Choice A** is the best answer because it presents the conclusion that most logically completes the text's discussion about the significance of the cupid found at Pompeii. The text indicates that the cupid is near a statue of a female figure who is fishing, and it goes on to indicate that because Venus is associated with cupids, some scholars believe the female figure to be the goddess Venus. But the text then says that, according to archaeologist Carla Brain, cupids may have also been associated with the activity of fishing, which, if true, would suggest that the mere appearance of a cupid near a female figure engaged in fishing does not indicate with certainty that the figure is Venus (that is, the cupid might be associated with fishing, and the figure might be anyone at all).

*Choice B* is incorrect because the text says nothing about how often Venus was depicted fishing in Roman art: it only implies that in certain instances a female figure may or may not be Venus. *Choice C* is incorrect because Carla Brain's proposed explanation for the presence of the cupids makes no reference to the female figure, and so the possibility that the figure in the artworks is in fact Venus cannot be definitively eliminated. *Choice D* is incorrect because there is nothing in the text to suggest that the only reasonable way to interpret the figure is as Venus.

## QUESTION 12

**Choice B** is the best answer because it most logically completes the text's discussion of Anita Allen's argument about judges citing philosophers in their judicial opinions. The text indicates that judges sometimes cite philosophers when writing their judicial opinions and that, according to Allen, judges tend to cite philosophers whose views are in agreement with those of the judges themselves. Allen claims, however, that the best judicial opinions consider potential objections and rebut them, which suggests that judges may be able to strengthen their opinions by including discussions of philosophers with views contrary to their own.

*Choice A* is incorrect because Allen's claim is that judges could improve their judicial opinions by citing philosophers who disagree with the views expressed in the opinions, which would necessarily require judges to consult philosophical works. *Choice C* is incorrect because there's no discussion in the text about making judicial opinions more easily understood by any particular group of readers. The focus of the text is on Allen's claim that judicial opinions could be strengthened by the inclusion of discussions of philosophers whose views disagree with those of the judges authoring the opinions. *Choice D* is incorrect because the text presents Allen's argument that discussing philosophers whose views judges disagree with could strengthen judicial opinions, not that doing so could bring those opinions into line with views that are popular among philosophers.

## QUESTION 13

**Choice A** is the best answer because it most logically completes the text's discussion of the relative appeal of different kinds of plays by Shakespeare to today's audiences. According to the text, Shakespeare's tragedies address broad themes that continue to appeal to today's audiences. Indeed, the text suggests that these themes are timeless, as illustrated by the example of *Romeo and Juliet*, which the text states is still read and widely performed despite being set in the Italy of Shakespeare's time. In contrast, the text indicates that audiences and readers may need to be familiar with several centuries of English history in order to understand Shakespeare's history plays. Because many theatergoers and readers are unlikely to possess such extensive historical knowledge, it follows that they are likely to find Shakespeare's history plays less engaging than his more accessible tragedies.

*Choice B* is incorrect because the text never introduces a comparison between Shakespeare's tragedies and twentieth-century plays, only between Shakespeare's tragedies and his history plays. Since twentieth-century plays aren't mentioned, there's no basis in the text for the idea that some of Shakespeare's tragedies are more relevant than twentieth-century plays to today's audiences. *Choice C* is incorrect. Although the text indicates that *Romeo and Juliet* is thematically accessible to today's audiences, it doesn't suggest that *Romeo and Juliet* is more accessible than Shakespeare's other tragedies. Rather, the text presents *Romeo and Juliet* as an example

to support the idea that Shakespeare's tragedies hold continued appeal for today's readers and theatergoers. *Choice D* is incorrect. Although experts in English history would likely possess the knowledge needed to understand Shakespeare's history plays, the text never mentions such experts or suggests that they would enjoy the history plays more than Shakespeare's other works.

## QUESTION 14

**Choice C** is the best answer. The convention being tested is punctuation between a main clause and a supplementary noun phrase. This choice correctly uses a comma to mark the boundary between the main clause ("scholar...materialism") and the supplementary noun phrase ("an apt assessment") that describes Waid's observation about how *The House of Mirth* depicts the upper classes of New York society.

*Choice A* is incorrect because a semicolon and the conjunction "and" can't be used in this way to mark the boundary between a main clause and a supplementary noun phrase. *Choice B* is incorrect. Joining the main clause ("scholar...materialism") and the following noun phrase with the conjunction "and" results in a confusing and illogical sentence that suggests that the novel depicts the upper classes of New York society as "an apt assessment," which doesn't make sense in this context. *Choice D* is incorrect because it fails to mark the boundary between the main clause and the supplementary noun phrase with appropriate punctuation.

## QUESTION 15

**Choice A** is the best answer. The convention being tested is subject-modifier placement. This choice makes the noun phrase "researcher Robert Losey" the subject of the sentence and places it immediately after the modifying phrase "since...Siberia." In doing so, this choice clearly establishes that researcher Robert Losey—and not another noun in the sentence—is who uncovered fragments of a 2,000-year-old reindeer training harness in northern Siberia.

*Choice B* is incorrect because it results in a dangling modifier. The placement of the noun phrase "researcher Robert Losey's argument" immediately after the modifying phrase illogically suggests that the "argument" is what uncovered fragments of a 2,000-year-old reindeer training harness in northern Siberia. *Choice C* is incorrect because it results in a dangling modifier. The placement of the noun "domestication" immediately after the modifying phrase illogically suggests that "domestication" is what uncovered fragments of a 2,000-year-old reindeer training harness in northern Siberia. *Choice D* is incorrect because it results in a dangling modifier. The placement of the noun phrase "the argument" immediately after the modifying phrase illogically suggests that the "argument" is what uncovered fragments of a 2,000-year-old reindeer training harness in northern Siberia.

## QUESTION 16

**Choice D** is the best answer. The convention being tested is punctuation between a supplementary phrase and a main clause. This choice correctly uses a comma to mark the boundary between the supplementary phrase ("A conceptual artist...world"), which describes Mary Ping, and the main clause ("Mary...America").

*Choice A* is incorrect because it fails to mark the boundary between the supplementary phrase ("A conceptual artist...world") and the main clause ("Mary...America") with appropriate punctuation. *Choice B* is incorrect because a colon can't be used in this way to join the supplementary phrase

("A conceptual artist...world") and the main clause ("Mary...America"). In this context, the colon incorrectly suggests that the information in the supplementary phrase is an explanation or amplification of the information in the main clause (Mary Ping being chosen to curate the exhibition), which isn't the case. **Choice C** is incorrect because a semicolon can't be used in this way to join the supplementary phrase ("A conceptual artist...world") and the main clause ("Mary...America"). Semicolons are conventionally used to separate two main clauses or to separate items in a complex series.

## QUESTION 17

**Choice D** is the best answer. The convention being tested is subject-verb agreement and agreement between nouns. The singular verb "is" and the singular noun "version" both agree in number with the relative pronoun "which." In this context, "which" functions as a singular subject because it refers to the singular noun "the Nerf football."

**Choice A** is incorrect because the plural verb "were" doesn't agree in number with the singular noun phrase "the Nerf football" that it's modifying. **Choice B** is incorrect because the plural verb "are" and the plural noun "versions" don't agree in number with the singular noun phrase "the Nerf football" that they're modifying. **Choice C** is incorrect because the plural verb "were" and the plural noun "versions" don't agree in number with the singular noun phrase "the Nerf football" that they're modifying.

## QUESTION 18

**Choice D** is the best answer. The convention being tested is punctuation use between two supplementary phrases following the coordinate clause ("but she...mycology"). This choice correctly uses a comma to mark the boundary between the supplementary noun phrase ("the study of fungi") that defines the term "mycology" and the supplementary participial phrase ("producing...London") that provides additional information about the extent to which Potter dedicated herself to mycology.

**Choice A** is incorrect because a semicolon can't be used in this way to join two supplementary phrases following a coordinate clause. **Choice B** is incorrect because it results in a rhetorically unacceptable sentence fragment beginning with "producing." **Choice C** is incorrect. The lack of punctuation results in a sentence that illogically suggests that the study of fungi is producing more than 350 paintings.

## QUESTION 19

**Choice C** is the best answer. The convention being tested is subject-modifier placement. This choice makes the noun phrase "Julian's 1935 synthesis" the subject of the sentence and places it immediately after the modifying phrase "named...years." In doing so, this choice clearly establishes that Julian's 1935 synthesis of the alkaloid physostigmine—and not another noun in the sentence—was named in 1999 as one of the greatest achievements by a US chemist in the past hundred years.

**Choice A** is incorrect because it results in a dangling modifier. The placement of the noun "Julian" immediately after the modifying phrase illogically suggests that Julian himself was named as one of the greatest achievements by a US chemist in the past hundred years. **Choice B** is incorrect because it results in a dangling modifier. The placement of the prepositional phrase "in 1935" immediately after the modifying phrase illogically and confusingly suggests

that "in 1935" was named as one of the greatest achievements by a US chemist in the past hundred years. *Choice D* is incorrect because it results in a dangling modifier. The placement of the noun phrase "the alkaloid physostigmine" immediately after the modifying phrase illogically and confusingly suggests that the alkaloid physostigmine itself (not the synthesis of it) was named as one of the greatest achievements by a US chemist in the past hundred years.

## QUESTION 20

**Choice C** is the best answer. The convention being tested is punctuation use between sentences. In this choice, the period is used correctly to mark the boundary between the first sentence ("The...adjustments") and the second sentence ("Prior...days"). Because the adverbial phrase beginning with "prior" indicates when changing a spreadsheet required redoing the sheet by hand, that phrase belongs with the second sentence.

*Choice A* is incorrect because it results in a run-on sentence. Two sentences are fused without punctuation and/or a conjunction. *Choice B* is incorrect because it results in a comma splice. A comma can't be used in this way to mark the boundary between sentences. *Choice D* is incorrect. Without a comma preceding it, the conjunction "and" can't be used in this way to join the sentences.

## QUESTION 21

**Choice B** is the best answer. "Next" logically signals that the action described in this sentence—Konkoly recording participants' eye movements—is the next step in Konkoly's experiment.

*Choice A* is incorrect because "specifically" illogically signals that this sentence specifies or elaborates on an aspect of the action described in the previous sentence. Instead, it describes the next step in Konkoly's experiment. *Choice C* is incorrect because "for instance" illogically signals that the action described in this sentence is an example of the action described in the previous sentence. Instead, it is the next step in Konkoly's experiment. *Choice D* is incorrect because "in sum" illogically signals that this sentence summarizes or concludes the action described in the previous sentence. Instead, it describes the next step in Konkoly's experiment.

## QUESTION 22

**Choice D** is the best answer. "Second" logically signals that the information in this sentence—that the effort to bury the ship would likely only have been made for a king—joins the information in the previous sentence ("first...") in supporting Brunning's claim that the burial site was likely the tomb of a king.

*Choice A* is incorrect because "instead" illogically signals that the information in this sentence presents an alternative or substitute to the previous information about the gold artifacts inside the ship. Rather, this sentence presents a second piece of information that supports Brunning's claim. *Choice B* is incorrect because "still" illogically signals that the information in this sentence exists in contrast to or despite the previous information about the gold artifacts inside the ship. Instead, this sentence presents a second piece of information that supports Brunning's claim. *Choice C* is incorrect because "specifically" illogically signals that the information in this sentence specifies or elaborates on the previous information about the gold artifacts inside the ship. Instead, this sentence presents a second piece of information that supports Brunning's claim.

## QUESTION 23

**Choice C** is the best answer. “Thus” logically signals that the action described in this sentence—the researcher being able to determine the chemical makeup of the planet’s bright regions based on how they reflect light—is a result or consequence of the previous information about spectroscopic fingerprints.

**Choice A** is incorrect because “regardless” illogically signals that the action described in this sentence occurs despite the previous information about spectroscopic fingerprints. Instead, the finding in this sentence is a result or consequence of that information. **Choice B** is incorrect because “meanwhile” illogically signals that the action described in this sentence either occurs at the same time as or offers an alternative to the previous information about spectroscopic fingerprints. Instead, the finding in this sentence is a result or consequence of that information. **Choice D** is incorrect because “in comparison” illogically signals that the action described in this sentence is being compared with the previous information about spectroscopic fingerprints. Instead, the finding in this sentence is a result or consequence of that information.

## QUESTION 24

**Choice A** is the best answer. The sentence emphasizes the significance of Ochoa’s discovery, noting that it proved critical to deciphering the human genetic code, which resulted in a better understanding of how genetic variations affect human health.

**Choice B** is incorrect. While the sentence explains what Ochoa discovered, it doesn’t emphasize the significance of the discovery. **Choice C** is incorrect. While the sentence explains what Ochoa discovered, it doesn’t emphasize the significance of the discovery. **Choice D** is incorrect. While the sentence mentions that Ochoa’s discovery was crucial, it emphasizes Ochoa’s incorrect hypothesis, not the significance of the discovery.

## QUESTION 25

**Choice D** is the best answer. The sentence uses “whereas” to contrast the emissivities of the two fibers, noting that the emissivity of the reflective metal fibers was just 0.02, far lower than that of the silicon carbide fibers (0.74).

**Choice A** is incorrect. The sentence emphasizes the ability of reflective metal fibers and silicon carbide fibers to emit heat; it doesn’t contrast the emissivities of the two fibers. **Choice B** is incorrect. The sentence states a law of thermodynamics: the amount of heat a material absorbs is equal to the amount it emits. The sentence doesn’t contrast the emissivity of reflective metal fibers with that of silicon carbide fibers. **Choice C** is incorrect. While the sentence includes a generalization about the emissivities of reflective metal fibers and silicon carbide fibers, it emphasizes Abebe’s plans for their use in a garment; it doesn’t contrast the emissivities of the two fibers.

## QUESTION 26

**Choice D** is the best answer. The sentence presents the significance of the Hart-Celler Act to an audience unfamiliar with the history of US immigration, noting that the 1965 act abolished the national-origins quota system and explaining why that mattered, historically: because the old quota system had favored immigrants from northern Europe.

*Choice A* is incorrect. The sentence describes an aspect of immigration policy at the time the Hart-Celler Act was proposed; it doesn't present the significance of the Hart-Celler Act to an audience unfamiliar with the history of US immigration. *Choice B* is incorrect. The sentence describes an aspect of immigration policy before the Hart-Celler Act; it doesn't describe or present the significance of the act to an audience unfamiliar with the history of US immigration. *Choice C* is incorrect. While the sentence indicates that the Hart-Celler Act abolished the old quota system, it doesn't explain the act or the quota system to an audience unfamiliar with the history of US immigration.

## QUESTION 27

**Choice C** is the best answer. The sentence explains an advantage of the "Women and the Vote" format, noting that the format appealed to audiences because it allowed them to control the experience.

*Choice A* is incorrect. The sentence describes a digital drawing on the "Women and the Vote" website; it doesn't explain an advantage of the play's format.

*Choice B* is incorrect. The sentence explains how audiences interacted with the "Women and the Vote" website; it doesn't explain an advantage of the play's format. *Choice D* is incorrect. While the sentence mentions that "Women and the Vote" had an interactive format, it doesn't explain what advantage this format might have.

# Reading and Writing

## Module 2 (27 questions)

### QUESTION 1

**Choice B** is the best answer because it most logically completes the text's discussion of Jacob Lawrence's artistic process. In this context, "observant" means watchful and perceptive. The text emphasizes that the "close attention" Lawrence paid to "all the details" of his neighborhood allowed him to reflect subtle elements of "the beauty and vitality of the Black experience" in his artwork. This context indicates that being observant of his surroundings was an important part of Lawrence's work as an artist.

*Choice A* is incorrect because the text gives no indication that Lawrence was "skeptical," or had an attitude of doubt in general or about particular things, let alone that skepticism was important to him as an artist. Rather than indicating that he was skeptical, the text focuses on how Lawrence paid careful attention to everything around him and reflected his observations in his artwork.

*Choice C* is incorrect because the text gives no indication that Lawrence was "critical," which in this context would mean inclined to criticize harshly or unfairly. Rather than indicating that Lawrence found fault in things, the text suggests that he paid careful attention to everything around him and that his artwork reflects this careful attention. *Choice D* is incorrect because the text doesn't suggest that Lawrence was "confident," or self-assured. Rather than addressing how Lawrence felt about himself and how that feeling affected his artistic process, the text emphasizes the careful attention Lawrence paid to everything around him—attention that allowed him to capture subtle elements of a particular place and time in his artwork.

### QUESTION 2

**Choice B** is the best answer because it most logically completes the text's discussion of the work of particle physicists. In this context, "inspecting" means viewing closely in order to examine. The text indicates that as particle physicists, Arce and El-Khadra's work involves using advanced technology to "closely examine" subatomic particles. In other words, they use technology to inspect small parts of matter that can't be seen by the naked eye.

*Choice A* is incorrect because nothing in the text suggests that Arce and El-Khadra spend time "selecting," or choosing, subatomic particles for some purpose; the text simply states that the particle physicists use advanced technology to see and study the behavior of those tiny parts of matter. *Choice C* is incorrect because nothing in the text suggests that Arce and El-Khadra

spend time “creating” subatomic particles, or bringing them into existence; the text simply states that the particle physicists use advanced technology to see and study the behavior of those tiny parts of matter. *Choice D* is incorrect. In this context, “deciding” would mean making a final choice or judgment about something. It wouldn’t make sense to say that particle physicists get to choose what is and isn’t visible to the naked eye, especially when the text presents it as fact that subatomic particles are “the smallest detectable parts of matter” and would therefore be invisible. The text focuses on Arce and El-Khadra’s close observation of those particles, not on any decisions they might make.

### QUESTION 3

**Choice C** is the best answer because it most logically completes the text’s discussion of Annie Dodge Wauneka’s work as a Navajo Nation legislator. As used in this context, “persistent” means existing continuously. The text states that Wauneka “continuously worked to promote public health,” traveling extensively and authoring a medical dictionary; this indicates that Wauneka’s effort was persistent.

*Choice A* is incorrect because describing Wauneka’s effort related to public health as “impartial,” or not partial or biased and treating all things equally, wouldn’t make sense in context. The text suggests that Wauneka’s continuous work was partial in one way, as she focused specifically on promoting public health throughout the Navajo homeland and to speakers of the Navajo language. *Choice B* is incorrect because the text emphasizes that Wauneka’s effort to promote public health as a Navajo Nation legislator was continuous and extensive, involving wide travels and the authoring of a medical dictionary. Because this work clearly involved care and dedication, it wouldn’t make sense to describe it as “offhand,” or casual and informal. *Choice D* is incorrect because nothing in the text suggests that Wauneka’s effort to promote public health was “mandatory,” or required by law or rule, even though Wauneka was a Navajo Nation legislator. Rather than suggesting that Wauneka’s effort was required for any reason, the text emphasizes the continuous and extensive nature of her work.

### QUESTION 4

**Choice B** is the best answer because it most logically completes the text’s discussion about recycling plastics. In this context, “inadequate” means not satisfactory. The text indicates that the mechanical plastic-recycling process affects the environment and causes “the loss of material quality.” The text contrasts that with Chazovachii’s chemical plastic-recycling process, which is cleaner and produces a desirable product. The text’s emphasis on the negative aspects of mechanical recycling suggests that it is inadequate in terms of environmental impact and the quality of the material the process yields.

*Choice A* is incorrect because in this context “resilient” would mean able to withstand difficulty and the text does not characterize the plastic-recycling process as having this quality or describe any difficulties that these processes might need to overcome. *Choice C* is incorrect because in this context “dynamic” would mean constantly changing. Although the text suggests that there have been changes in the field of recycling, as is the case with the advent of Chazovachii’s chemical recycling process, there is nothing to suggest that the mechanical process itself has changed or is prone to change. *Choice D* is incorrect because in this context “satisfactory” would mean acceptable but not perfect. The text mentions only shortcomings of the mechanical process (environmental effects and lower material quality), so the text more strongly supports a negative view of this process and provides no evidence that it would be considered satisfactory.

## QUESTION 5

**Choice D** is the best answer because it most logically completes the text's discussion of Jemisin's writing. In this context, "conform to" means to act in accordance with something. The text suggests that in her science fiction writing, Jemisin's willingness to go against expectations and not use plots and themes that seem to follow a formula reflects how she treats the standard practices of the genre. This context conveys that Jemisin chooses not to act in accordance with those conventions.

*Choice A* is incorrect. In this context, "question" would mean doubt or object to. The text indicates that Jemisin is willing to go against expectations and not use formulaic plots and themes in her science fiction writing, suggesting that she may actually object to those conventions of the genre, not that she chooses not to question them. *Choice B* is incorrect because the text indicates that in her science fiction writing, Jemisin is willing to go against expectations and not use formulaic plots and themes. Rather than suggesting that Jemisin chooses not to "react to," or act in response to, the standard practices of the genre, this context suggests that she is acting in response to such conventions by deliberately avoiding them. *Choice C* is incorrect. In this context, "perceive" would mean become aware of or understand. The text indicates that in her science fiction writing, Jemisin is willing to go against expectations and not use formulaic plots and themes. This context conveys that Jemisin is aware of and deliberately avoids those conventions of the genre, not that she chooses not to be aware of them.

## QUESTION 6

**Choice A** is the best answer because it most logically completes the text's discussion of letters allegedly exchanged between President Lincoln and Rutledge. In this context, "validate" means to confirm that something is real or correct. According to the text, it was alleged, or claimed, that the newly discovered letters had been written by Lincoln and Rutledge. The text also indicates that historians ultimately decided the letters were a hoax, or fraudulent. This context suggests that the historians couldn't confirm that the letters were authentic.

*Choice B* is incorrect. The text focuses on the authenticity of the letters, which were claimed to have been written by Lincoln and Rutledge and were then quickly dismissed as fraudulent by historians. Rather than conveying that the historians simply weren't able to "interpret," or explain in an understandable way, the letters' authenticity, the text suggests that the historians decided the letters lacked authenticity altogether. *Choice C* is incorrect. The text states that the historians quickly dismissed the letters claimed to have been written by Lincoln and Rutledge as fraudulent; this suggests that rather than being unable to "relate," or tell others about, the letters' authenticity, the historians were able to share what they'd decided about the letters. *Choice D* is incorrect because it wouldn't make sense to suggest that the historians couldn't "accommodate," or give consideration to, the authenticity of the letters claimed to have been written by Lincoln and Rutledge; the text states that the historians decided that the letters were fraudulent, which indicates that they *did* consider whether the letters were authentic.

## QUESTION 7

**Choice D** is the best answer because it accurately states the text's main purpose. The poem begins with the speaker urging a child to "go forth" with her encouragement ("my heart's desire"). The speaker goes on to suggest that new experiences ("Great reaches, yet unknown") lie ahead for the son that "life is calling" him to seek out. Thus, the main purpose is to encourage a child to embrace the experiences available to him in his life.

Choice A is incorrect because the speaker encourages the child to pursue new experiences ("Great reaches") without knowing exactly what those experiences will be ("yet unknown") or suggesting that they should match the speaker's own accomplishments. Choice B is incorrect because the speaker focuses on positive possibilities for her son ("Great reaches, yet unknown") and her enthusiastic encouragement to embrace those possibilities ("life is calling you!"), while there is no mention of raising a child or associated struggles. Choice C is incorrect because the speaker frames the possibilities for her son in a positive light when she says that "great reaches, yet unknown" are waiting for him, and this positive outlook for the son is consistent throughout the text.

## QUESTION 8

**Choice A** is the best answer because it most accurately states the main purpose of the text. After providing a brief introduction to computer scientist Luis von Ahn, the text focuses on discussing how von Ahn's digitization work led to the invention of a digital security test known as reCAPTCHA.

Choice B is incorrect because the text doesn't address how digital scanners work. Choice C is incorrect. Although the text mentions von Ahn's book-digitizing project, that information is provided as a detail, not as the main purpose of the text. Choice D is incorrect because the text doesn't provide any indication of reCAPTCHA's popularity; instead, it describes reCAPTCHA's origin.

## QUESTION 9

**Choice A** is the best answer because it reflects what the paleontologists in Text 2 would most likely say about what the researchers in Text 1 initially thought. Text 1 focuses on the discovery of a strange fossil consisting of the skull of the extinct species *Oculudentavis khaungraee*. According to Text 1, the fossil has features that appear to be avian, or related to birds, which led researchers to initially think that the fossil might be a very small avian dinosaur. Text 2 begins by noting the discovery of a second fossil similar to the one discussed in Text 1, then explains that based on detailed studies of both fossils, paleontologists think that the two creatures were probably unusual lizards, even though the skulls appeared avian at first. This suggests that the paleontologists in Text 2 recognize that the fossils do indeed look like they could be related to birds. For this reason, the paleontologists in Text 2 would most likely say that the initial thought of the researchers in Text 1—that the fossil was avian—is understandable, even if the fossil is probably not avian but rather is from a lizard.

Choice B is incorrect because Text 2 indicates that the fossils initially looked avian, so the paleontologists described in Text 2 wouldn't be confused by the researchers in Text 1 initially thinking that *O. khaungraee* might be related to birds. The paleontologists would find that initial thought understandable, not confusing. Choice C is incorrect because Text 1 never mentions lizards, so it wouldn't make sense for the paleontologists in Text 2 to say that the researchers in Text 1 mistakenly assumed that *O. khaungraee* must be a lizard. Choice D is incorrect. Although the paleontologists in Text 2 might agree that the initial thought of the researchers in Text 1 was reasonable, nothing in Text 2 suggests that the two skulls were shaped differently.

## QUESTION 10

**Choice C** is the best answer because it presents a description of how the human mind is like a flower that is directly supported by the text. The text compares the needs of a "fragile and lovely flower" to those of the speaker's "tender mind": both need to be fed if they're going to survive. Without such

feeding, they'll "beginneth straightway to languish," or weaken. Thus, the text suggests that the human mind is like a flower in that they both need proper nourishment in order to thrive.

*Choice A* is incorrect because the text doesn't address the passage of time or describe either the human mind or a flower as becoming increasingly vigorous. *Choice B* is incorrect because the text doesn't suggest that human minds or flowers draw strength from changes in weather. The references to rain in the text pertain to a flower's need for water rather than the general effects of changing weather. *Choice D* is incorrect because the text doesn't suggest that the human mind or a flower will persist regardless of challenging circumstances. In fact, the text indicates that they'll both languish right away if not given what they need.

## QUESTION 11

**Choice C** is the best answer because it most effectively uses data from the table to complete the statement about the forestry student's project. The table shows five types of maple trees, each tree's maximum height, and whether each tree is native to North America. The text indicates that the student needs to recommend a maple tree that's native to North America and won't reach a height greater than 60 feet. The red maple is the only tree listed in the table that meets these criteria: its maximum height is 60 feet—meaning that it won't grow higher than 60 feet—and it's native to North America.

*Choice A* is incorrect because the text states that the student needs to recommend a tree that's native to North America and won't grow higher than 60 feet, but the table shows that the maximum height of the silver maple is 70 feet. *Choice B* is incorrect because the text states that the student needs to recommend a tree that's native to North America and won't grow higher than 60 feet, but the table shows that the maximum height of the sugar maple is 75 feet. *Choice D* is incorrect because the text states that the student needs to recommend a tree that's native to North America and won't grow higher than 60 feet, but the table shows that the Norway maple isn't native to North America.

## QUESTION 12

**Choice C** is the best answer because it would most directly support the student's claim about the motivation for including explanatory notes with the stand-alone volume of the poem. The text explains that the poem had previously been published without the notes in a quarterly journal. It stands to reason that readers who had purchased the journal issue containing the poem would be unlikely to purchase an unchanged version of the poem in a stand-alone volume. However, the inclusion of notes in that volume would encourage the purchase of a stand-alone volume, since the later text would differ from the original by including the author's own explanation of the poem. Therefore, if it were true that the publishers of the stand-alone volume had requested the notes to make the book attractive to readers who already had a copy of the journal issue, this fact would support the student's claim that the notes were included primarily as a marketing device.

*Choice A* is incorrect because the student's claim is about the motivation for including the explanatory notes in the stand-alone volume, not about changes that might have been made to the poem itself for publication in that volume; moreover, the text never suggests that such changes were made. *Choice B* is incorrect because the student's claim is about why the explanatory notes were included in the stand-alone volume, not about how the notes affected readers' and critics' subsequent experience of the poem. *Choice D* is incorrect because the fact that the poet drafted multiple versions of the explanatory notes doesn't

directly address the issue of whether the notes were intended as a marketing device, as the student claims; the correspondence would support this claim only if it showed that the poet had revised the notes specifically to make them useful to the marketing of the stand-alone volume.

### QUESTION 13

**Choice B** is the best answer because it most effectively illustrates the claim that Amal imagines the people he sees are carefree even when engaged in work. In the quotation, Amal observes that the flower seller's daughter is "flower gathering," or working, as the text indicates. Moreover, Amal notes that the daughter's feet "seem so glad" and her "anklets jingle so merrily," suggesting that Amal believes that the flower seller's daughter is cheerful.

*Choice A* is incorrect because the quotation makes no observation about the cheerful mood of the flower seller's daughter. *Choice C* is incorrect because the quotation discusses how Amal envisions his future, not the feelings of the flower seller's daughter. *Choice D* is incorrect because the quotation discusses Amal's wishes, not the feelings of the flower seller's daughter.

### QUESTION 14

**Choice D** is the best answer because it accurately describes data from the table that support Rodriguez and colleagues' assertion about the classifications of the five new gas exoplanets. The text describes two categories of gas planets: hot Jupiters, which have a mass of at least 0.25 Jupiters and an orbital period of less than 10 days, and warm Jupiters, which have the same mass characteristic but have orbital periods of more than 10 days. According to the table, four of the gas exoplanets discovered by Rodriguez and colleagues have a mass of at least 0.25 Jupiters and an orbital period of less than 10 days, while one of the planets has a mass of at least 0.25 Jupiters and an orbital period of more than 10 days. These data therefore support Rodriguez and colleagues' assertion that four of the new exoplanets are hot Jupiters and one is a warm Jupiter.

*Choice A* is incorrect because it doesn't accurately describe the data from the table. Although the table shows that TOI-628 b has a mass equivalent to 6.33 Jupiters, the table also shows that one of the planets—TOI-1478 b—does indeed have an orbital period of more than 10 days. *Choice B* is incorrect because it doesn't accurately describe the data from the table. Although the table does show that the masses of the five planets range from 0.85 to 6.33 Jupiters, the table also shows that TOI-1478 b has an orbital period of 10.180 days, not 153 days. *Choice C* is incorrect. According to the table, TOI-1333 b has an orbital period of only 4.720 days, not more than 10 days. Additionally, although the table does show that all the planets have a radius between 1.060 and 1.771 Jupiters, the text indicates that a planet may be classified as a hot Jupiter or a warm Jupiter based on its mass and orbital period, not on its radius, making the information about the range of the five planets' radius values irrelevant.

### QUESTION 15

**Choice A** is the best answer because it uses data from the graph to effectively support Charles and Stephens's claim about how level of information affects voters. The graph shows the probability of voting for both high- and low-information voters in seven categories of political orientation. Charles and Stephens claim that "the more informed voters are about politics...the more likely they are to vote." This statement correctly asserts that the graph shows a

higher probability of voting for high-information voters than for low-information voters at each of the seven political orientations. Thus, this statement accurately cites data from the graph that support Charles and Stephens's claim about how level of information affects voters.

*Choice B* is incorrect. Although this statement is correct that the only probability in the graph below 50% is for low-information voters categorized as independent (orientation 4), the claim in question is about the relative likelihood that low- and high-information voters will vote, and without some reference to high-information voters, this statement cannot help support such a comparison. *Choice C* is incorrect. Although this statement is correct that the highest probabilities of voting for low-information voters are at the ends of the orientation scale (1 and 7), the claim in question is about the relative likelihood that low- and high-information voters will vote, and without some reference to high-information voters, this statement cannot help support such a comparison. *Choice D* is incorrect because the graph does not give any information about how many people are represented in any of the categories, so this statement is not based on data from the graph. Furthermore, even if we did have this information, the claim is about how level of information affects voters' probability of voting, not whether they're likely to strongly identify with a particular political party.

## QUESTION 16

**Choice D** is the best answer because it presents a finding that, if true, would support the researchers' prediction about the language nest model of education. The text states that Morcom and Roy studied the effects of the language nest model of education on students at an Anishinaabe school, and they found that the model—which is used with students during pre-K or elementary school—increased students' fluency in the Anishinaabe language and pride in Anishinaabe culture. The researchers predicted that the students' positive early experiences with the Anishinaabe language would lead them to be more likely to later share the language with younger generations. If former students maintain full fluency and cultural pride after finishing secondary and higher education, it follows that they would be both able and motivated to share what they know with others; this would likely result in a higher probability of transmitting the language to younger generations, as the researchers predict.

*Choice A* is incorrect because finding that Anishinaabe adults who didn't attend the school feel approximately the same degree of cultural pride as those adults who did attend wouldn't support the researchers' prediction that former students will be more likely to share their knowledge with younger generations. This finding would identify a similarity between the groups rather than a factor that might make former students more likely than other adults to transmit the language to younger people. *Choice B* is incorrect because finding that new students experience increased performance in language fluency and academics would suggest that the school has a positive effect on students when they attended but wouldn't reveal anything about those students' later actions as adults (such as their likelihood of sharing their knowledge with younger generations). *Choice C* is incorrect because finding that Anishinaabe adults who attended the school are equally likely to stay in the community as adults who didn't attend the school wouldn't support the researchers' prediction that former students will be more likely to share their knowledge with younger generations. This finding would identify a similarity between the groups rather than a factor that might make former students more likely than other adults to transmit the language to younger people.

## QUESTION 17

**Choice A** is the best answer because it most accurately describes Gibson's approach to art. As the text explains, Gibson, who is Cherokee and Choctaw, transforms punching bags into art pieces by applying (or attaching) to them beadwork and elements of Native dressmaking, including leather fringe and the jingles of the jingle dress. The text goes on to say that in most Native communities, the art forms of beadwork and dressmaking are traditionally practiced by women. Therefore, Gibson's approach to art consists of creating original works by drawing from traditional Native art forms.

*Choice B* is incorrect because the text doesn't indicate that Gibson designs dresses influenced by boxing but instead that he turns punching bags, which are used in boxing, into works of art by applying elements of Native dressmaking to them. *Choice C* is incorrect. Although Gibson does incorporate beadwork into his art, the text never mentions the colors or patterns that he uses or suggests that his art defies the expectations that people might have about color and pattern in beadwork. *Choice D* is incorrect. Because Gibson incorporates Native art forms into his own original artwork, it can be inferred that he has been influenced by other Native artists, but the text never suggests that non-Native artists have influenced him.

## QUESTION 18

**Choice B** is the best answer. The convention being tested is finite and nonfinite verb forms within a sentence. A main clause requires a finite verb to perform the action of the subject (in this case, "people in the Americas"), and this choice supplies the finite past perfect tense verb "have used" to indicate what people in the Americas used the gourd for.

*Choice A* is incorrect because the nonfinite to-infinitive "to use" doesn't supply the main clause with a finite verb. *Choice C* is incorrect because the nonfinite participle "having used" doesn't supply the main clause with a finite verb. *Choice D* is incorrect because the nonfinite participle "using" doesn't supply the main clause with a finite verb.

## QUESTION 19

**Choice B** is the best answer. The convention being tested is the coordination of main clauses within a sentence. This choice correctly uses a comma and the coordinating conjunction "but" to join the first main clause ("the Alvarez...out") and the second main clause ("it left...extinctions").

*Choice A* is incorrect because when coordinating two longer main clauses such as these, it's conventional to use a comma before the coordinating conjunction. *Choice C* is incorrect because it results in a run-on sentence. The two main clauses are fused without punctuation and/or a conjunction. *Choice D* is incorrect because it results in a comma splice. Without a conjunction following it, a comma can't be used in this way to join two main clauses.

## QUESTION 20

**Choice A** is the best answer. The convention being tested is finite and nonfinite verb forms within a sentence. A main clause requires a finite verb to perform the action of the subject (in this case, "embryos"), and this choice supplies the clause with the finite present tense verb "enter" to indicate how the embryos achieve diapause.

*Choice B* is incorrect because the nonfinite to-infinitive “to enter” doesn’t supply the main clause with a finite verb. *Choice C* is incorrect because the nonfinite participle “having entered” doesn’t supply the main clause with a finite verb. *Choice D* is incorrect because the nonfinite participle “entering” doesn’t supply the main clause with a finite verb.

## QUESTION 21

**Choice D** is the best answer. The convention being tested is the use of verbs to express tense. In this choice, the present tense verb “is,” used in conjunction with the word “today,” correctly indicates that Paik is currently considered the first video artist.

*Choice A* is incorrect because the future-indicating verb “will be” doesn’t indicate that Paik is currently considered the first video artist. *Choice B* is incorrect because the past perfect tense verb “had been” doesn’t indicate that Paik is currently considered the first video artist. *Choice C* is incorrect because the past tense verb “was” doesn’t indicate that Paik is currently considered the first video artist.

## QUESTION 22

**Choice D** is the best answer. The convention being tested is punctuation between a verb and a preposition. When, as in this case, a verb (“is added”) is immediately followed by a preposition (“whenever”), no punctuation is needed.

*Choice A* is incorrect because no punctuation is needed between the verb and the preposition. *Choice B* is incorrect because no punctuation is needed between the verb and the preposition. *Choice C* is incorrect because no punctuation is needed between the verb and the preposition.

## QUESTION 23

**Choice D** is the best answer. The convention being tested is the use of verbs to express tense. In this choice, the present tense verb “survives” correctly indicates that the wood frog regularly survives subfreezing temperatures by producing large amounts of glucose.

*Choice A* is incorrect because the past perfect verb “had survived” doesn’t indicate that the wood frog regularly survives subfreezing temperatures by producing large amounts of glucose. *Choice B* is incorrect because the past tense verb “survived” doesn’t indicate that the wood frog regularly survives subfreezing temperatures by producing large amounts of glucose. *Choice C* is incorrect because the conditional verb “would survive” doesn’t indicate that the wood frog regularly survives subfreezing temperatures by producing large amounts of glucose.

## QUESTION 24

**Choice A** is the best answer. “Meanwhile” logically signals that the action described in this sentence (Obinze’s move to London to pursue a career) is simultaneous with the action described in the previous sentence (Ifemelu’s move to the United States). The first sentence establishes that the actions take place around the same time, referring to the characters’ “divergent experiences” following high school.

*Choice B* is incorrect because “nevertheless” illogically signals that the information in this sentence about Obinze’s move to London is true despite the previous information about Ifemelu’s move to the United States. Instead, as the first sentence establishes, Obinze’s move and Ifemelu’s move are related,

parallel experiences that occur around the same time. *Choice C* is incorrect because “secondly” illogically signals that the information in this sentence is a second point or reason separate from the previous information about Ifemelu’s move to the United States. Instead, as the first sentence establishes, Obinze’s move and Ifemelu’s move are related, parallel experiences that occur around the same time. *Choice D* is incorrect because “in fact” illogically signals that the information in this sentence emphasizes, modifies, or contradicts the previous information about Ifemelu’s move to the United States. Instead, as the first sentence establishes, Obinze’s move and Ifemelu’s move are related, parallel experiences that occur around the same time.

## QUESTION 25

**Choice C** is the best answer. “Similarly” logically signals that the activity described in this sentence (Nancy Tuttle Craig distributing Votes for Women Tea in her Los Angeles grocery stores) is like the activity described in the previous sentence (the Woman’s Suffrage Party selling Equality Tea at fairs in San Francisco). Together, the two examples support the preceding claim that “activists across the state sold tea to promote the cause of suffrage.”

*Choice A* is incorrect because “for example” illogically signals that the activity described in this sentence exemplifies the activity described in the previous sentence. Instead, the two activities are similar, and both support the preceding claim about selling tea to promote women’s right to vote. *Choice B* is incorrect because “to conclude” illogically signals that the activity described in this sentence concludes or summarizes the information in the previous sentences. Instead, the activity is similar to the one described in the previous sentence, and both support the preceding claim about selling tea to promote women’s right to vote. *Choice D* is incorrect because “in other words” illogically signals that the activity described in this sentence paraphrases the activity described in the previous sentence. Instead, the two activities are similar, and both support the preceding claim about selling tea to promote women’s right to vote.

## QUESTION 26

**Choice B** is the best answer. The sentence effectively explains an advantage of infilling: it’s less invasive than using a power grinder.

*Choice A* is incorrect. The sentence identifies a disadvantage of power grinding; it doesn’t explain an advantage of infilling. *Choice C* is incorrect. The sentence identifies the two techniques park rangers use; it doesn’t explain an advantage of infilling. *Choice D* is incorrect. The sentence indicates that power grinding and infilling are different in one aspect; it fails to explain an advantage of infilling.

## QUESTION 27

**Choice D** is the best answer. The sentence effectively describes *Unwoven Light* to an audience unfamiliar with Park, noting that Soo Sunny Park is a Korean American artist and that the 2013 work consists of colorful prisms formed by light passing through iridescent tiles.

*Choice A* is incorrect. The sentence describes aspects of *Unwoven Light* but doesn’t mention who Park is; it thus doesn’t effectively describe the work to an audience unfamiliar with Park. *Choice B* is incorrect. Although the sentence indicates when the work was created and who Park is, it lacks descriptive details and thus doesn’t effectively describe *Unwoven Light*. *Choice C* is incorrect. The sentence mentions Park and describes an aspect of *Unwoven Light*—the chain-link fence—but doesn’t effectively describe the overall work to an audience unfamiliar with the artist.

# Math

## Module 1 (22 questions)

### QUESTION 1

**Choice C** is correct. It's given that  $t$  represents the number of seconds after the bus passes the marker. Substituting 2 for  $t$  in the given equation  $d = 30t$  yields  $d = 30(2)$ , or  $d = 60$ . Therefore, the bus will be 60 feet from the marker 2 seconds after passing it.

**Choice A** is incorrect. This is the distance, in feet, the bus will be from the marker 1 second, not 2 seconds, after passing it. **Choice B** is incorrect and may result from conceptual or calculation errors. **Choice D** is incorrect. This is the distance, in feet, the bus will be from the marker 3 seconds, not 2 seconds, after passing it.

### QUESTION 2

**Choice D** is correct. The equation of a line in the  $xy$ -plane can be written as  $y = mx + b$ , where  $m$  represents the slope of the line and  $(0, b)$  represents the  $y$ -intercept of the line. It's given that the slope of the line is  $\frac{1}{9}$ . It follows that  $m = \frac{1}{9}$ . It's also given that the line passes through the point  $(0, 14)$ . It follows that  $b = 14$ . Substituting  $\frac{1}{9}$  for  $m$  and 14 for  $b$  in  $y = mx + b$  yields  $y = \frac{1}{9}x + 14$ . Thus, the equation  $y = \frac{1}{9}x + 14$  represents this line.

**Choice A** is incorrect. This equation represents a line with a slope of  $-\frac{1}{9}$  and a  $y$ -intercept of  $(0, -14)$ . **Choice B** is incorrect. This equation represents a line with a slope of  $-\frac{1}{9}$  and a  $y$ -intercept of  $(0, 14)$ . **Choice C** is incorrect. This equation represents a line with a slope of  $\frac{1}{9}$  and a  $y$ -intercept of  $(0, -14)$ .

### QUESTION 3

The correct answer is  $\frac{1}{5}$ . Since the number 5 can also be written as  $\frac{5}{1}$ , the given equation can also be written as  $\frac{x}{8} = \frac{5}{1}$ . This equation is equivalent to  $\frac{8}{x} = \frac{1}{5}$ . Therefore, the value of  $\frac{8}{x}$  is  $\frac{1}{5}$ . Note that  $1/5$  and  $.2$  are examples of ways to enter a correct answer.

Alternate approach: Multiplying both sides of the equation  $\frac{x}{8} = 5$  by 8 yields

$x = 40$ . Substituting 40 for  $x$  into the expression  $\frac{8}{x}$  yields  $\frac{8}{40}$ , or  $\frac{1}{5}$ .

## QUESTION 4

**Choice B** is correct. It's given that triangle  $ABC$  is congruent to triangle  $DEF$ . Corresponding angles of congruent triangles are congruent and, therefore, have equal measure. It's given that angle  $A$  corresponds to angle  $D$ , and that the measure of angle  $A$  is  $18^\circ$ . It's also given that the measures of angles  $B$  and  $E$  are  $90^\circ$ . Since these angles have equal measure, they are corresponding angles. It follows that angle  $C$  corresponds to angle  $F$ . Let  $x^\circ$  represent the measure of angle  $C$ . Since the sum of the measures of the interior angles of a triangle is  $180^\circ$ , it follows that  $18^\circ + 90^\circ + x^\circ = 180^\circ$ , or  $108^\circ + x^\circ = 180^\circ$ . Subtracting  $108^\circ$  from both sides of this equation yields  $x^\circ = 72^\circ$ . Therefore, the measure of angle  $C$  is  $72^\circ$ . Since angle  $C$  corresponds to angle  $F$ , it follows that the measure of angle  $F$  is also  $72^\circ$ .

**Choice A** is incorrect. This is the measure of angle  $D$ , not the measure of angle  $F$ . **Choice C** is incorrect. This is the measure of angle  $E$ , not the measure of angle  $F$ . **Choice D** is incorrect. This is the sum of the measures of angles  $E$  and  $F$ , not the measure of angle  $F$ .

## QUESTION 5

**Choice B** is correct. Applying the commutative property of multiplication, the expression  $(m^4q^4z^{-1})(mq^5z^3)$  can be rewritten as  $(m^4m)(q^4q^5)(z^{-1}z^3)$ . For positive values of  $x$ ,  $(x^a)(x^b) = x^{a+b}$ . Therefore, the expression  $(m^4m)(q^4q^5)(z^{-1}z^3)$  can be rewritten as  $(m^{4+1})(q^{4+5})(z^{-1+3})$ , or  $m^5q^9z^2$ .

**Choice A** is incorrect and may result from multiplying, not adding, the exponents. **Choice C** is incorrect and may result from conceptual or calculation errors. **Choice D** is incorrect and may result from conceptual or calculation errors.

## QUESTION 6

**Choice C** is correct. The median of a data set represented in a box plot is represented by the vertical line within the box. It follows that the median mass of the gazelles in group 1 is 25 kilograms, and the median mass of the gazelles in group 2 is 24 kilograms. Since 25 kilograms is greater than 24 kilograms, the median mass of group 1 is greater than the median mass of group 2.

**Choice A** is incorrect. The mean mass of each of the two groups cannot be determined from the box plots. **Choice B** is incorrect. The mean mass of each of the two groups cannot be determined from the box plots. **Choice D** is incorrect and may result from conceptual or calculation errors.

## QUESTION 7

**Choice B** is correct. Since the point  $(x, y)$  is an intersection point of the graphs of the given equations in the  $xy$ -plane, the pair  $(x, y)$  should satisfy both equations, and thus is a solution of the given system. According to the first equation,  $y = 76$ . Substituting 76 in place of  $y$  in the second equation yields  $x^2 - 5 = 76$ . Adding 5 to both sides of this equation yields  $x^2 = 81$ . Taking the square root of both sides of this equation yields two solutions:  $x = 9$  and  $x = -9$ . Of these two solutions, only  $-9$  is given as a choice.

*Choice A* is incorrect and may result from conceptual or calculation errors.  
*Choice C* is incorrect and may result from conceptual or calculation errors.  
*Choice D* is incorrect. This is the value of coordinate  $y$ , rather than  $x$ , of the intersection point  $(x, y)$ .

## QUESTION 8

**Choice A** is correct. It's given that the estimate for the proportion of the population that has the characteristic is 0.49 with an associated margin of error of 0.04. Subtracting the margin of error from the estimate and adding the margin of error to the estimate gives an interval of plausible values for the true proportion of the population that has the characteristic. Therefore, it's plausible that the proportion of the population that has this characteristic is between 0.45 and 0.53.

*Choice B* is incorrect. A value less than 0.45 is outside the interval of plausible values for the proportion of the population that has the characteristic. *Choice C* is incorrect. The value 0.49 is an estimate for the proportion based on this sample. However, since the margin of error for this estimate is known, the most appropriate conclusion is not that the proportion is exactly one value but instead lies in an interval of plausible values. *Choice D* is incorrect. A value greater than 0.53 is outside the interval of plausible values for the proportion of the population that has the characteristic.

## QUESTION 9

**Choice A** is correct. A system of two linear equations in two variables,  $x$  and  $y$ , has zero points of intersection if the lines represented by the equations in the  $xy$ -plane are distinct and parallel. The graphs of two lines in the  $xy$ -plane represented by equations in slope-intercept form,  $y = mx + b$ , are distinct if the  $y$ -coordinates of their  $y$ -intercepts,  $b$ , are different and are parallel if their slopes,  $m$ , are the same. For the two equations in the given system,  $y = 2x + 10$  and  $y = 2x - 1$ , the values of  $b$  are 10 and  $-1$ , respectively, and the values of  $m$  are both 2. Since the values of  $b$  are different, the graphs of these lines have different  $y$ -coordinates of the  $y$ -intercept and are distinct. Since the values of  $m$  are the same, the graphs of these lines have the same slope and are parallel. Therefore, the graphs of the given equations are lines that intersect at zero points in the  $xy$ -plane.

*Choice B* is incorrect. The graphs of a system of two linear equations have exactly one point of intersection if the lines represented by the equations have different slopes. Since the given equations represent lines with the same slope, there is not exactly one intersection point. *Choice C* is incorrect. The graphs of a system of two linear equations can never have exactly two intersection points. *Choice D* is incorrect. The graphs of a system of two linear equations have infinitely many intersection points when the lines represented by the equations have the same slope and the same  $y$ -coordinate of the  $y$ -intercept. Since the given equations represent lines with different  $y$ -coordinates of their  $y$ -intercepts, there are not infinitely many intersection points.

## QUESTION 10

**Choice C** is correct. In the  $xy$ -plane, the graph of a linear function can be written in the form  $f(x) = mx + b$ , where  $m$  represents the slope and  $(0, b)$  represents the  $y$ -intercept of the graph of  $y = f(x)$ . It's given that the graph of the linear function  $f$ , where  $y = f(x)$ , in the  $xy$ -plane contains the point  $(0, 2)$ . Thus,  $b = 2$ . The slope of the graph of a line containing any two points  $(x_1, y_1)$  and  $(x_2, y_2)$  can be found using the slope formula,  $m = \frac{y_2 - y_1}{x_2 - x_1}$ . Since it's given that

the graph of the linear function  $f$  contains the points  $(0, 2)$  and  $(8, 34)$ , it follows

that the slope of the graph of the line containing these points is  $m = \frac{34 - 2}{8 - 0}$ , or

$m = 4$ . Substituting 4 for  $m$  and 2 for  $b$  in  $f(x) = mx + b$  yields  $f(x) = 4x + 2$ .

**Choice A** is incorrect. This function represents a graph with a slope of 2 and a  $y$ -intercept of  $(0, 42)$ . **Choice B** is incorrect. This function represents a graph with a slope of 32 and a  $y$ -intercept of  $(0, 36)$ . **Choice D** is incorrect. This function represents a graph with a slope of 8 and a  $y$ -intercept of  $(0, 2)$ .

## QUESTION 11

The correct answer is 24. The equation  $\frac{24x}{ny} = 4$  can be rewritten as

$\left(\frac{24}{n}\right)\left(\frac{x}{y}\right) = 4$ . It's given that  $\frac{x}{y} = 4$ . Substituting 4 for  $\frac{x}{y}$  in the equation

$\left(\frac{24}{n}\right)\left(\frac{x}{y}\right) = 4$  yields  $\left(\frac{24}{n}\right)(4) = 4$ . Multiplying both sides of this equation by

$n$  yields  $(24)(4) = 4n$ . Dividing both sides of this equation by 4 yields  $24 = n$ .

Therefore, the value of  $n$  is 24.

## QUESTION 12

**Choice D** is correct. It's given that the function  $w$  models the volume of liquid, in milliliters, in a container  $t$  seconds after it begins draining from a hole at the bottom. The given function  $w(t) = 300 - 4t$  can be rewritten as  $w(t) = -4t + 300$ . Thus, for each increase of  $t$  by 1, the value of  $w(t)$  decreases by  $4(1)$ , or 4. Therefore, the predicted volume, in milliliters, draining from the container each second is 4 milliliters.

**Choice A** is incorrect. This is the amount of liquid, in milliliters, in the container before the liquid begins draining. **Choice B** is incorrect and may result from conceptual errors. **Choice C** is incorrect and may result from conceptual errors.

## QUESTION 13

**Choice C** is correct. Because the value of the investment increases each year, the function that best models how the value of the investment changes over time is an increasing function. It's given that each year, the value of the investment increases by 0.49% of its value the previous year. Since the value of the investment changes by a fixed percentage each year, the function that best models how the value of the investment changes over time is an exponential function. Therefore, the function that best models how the value of the investment changes over time is an increasing exponential function.

**Choice A** is incorrect and may result from conceptual errors. **Choice B** is incorrect and may result from conceptual errors. **Choice D** is incorrect and may result from conceptual errors.

## QUESTION 14

The correct answer is 80. Subtracting the second equation in the given system from the first equation yields  $(24x + y) - (6x + y) = 48 - 72$ , which is equivalent to  $24x - 6x + y - y = -24$ , or  $18x = -24$ . Dividing each side of this equation by 3 yields  $6x = -8$ . Substituting  $-8$  for  $6x$  in the second equation yields  $-8 + y = 72$ . Adding 8 to both sides of this equation yields  $y = 80$ .

Alternate approach: Multiplying each side of the second equation in the given system by 4 yields  $24x + 4y = 288$ . Subtracting the first equation in the given system from this equation yields  $(24x + 4y) - (24x + y) = 288 - 48$ , which is equivalent to  $24x - 24x + 4y - y = 240$ , or  $3y = 240$ . Dividing each side of this equation by 3 yields  $y = 80$ .

### QUESTION 15

The correct answer is 7. When an equation is of the form  $y = ax^2 + bx + c$ , where  $a$ ,  $b$ , and  $c$  are constants, the value of  $y$  reaches its minimum when

$x = -\frac{b}{2a}$ . Since the given equation is of the form  $y = ax^2 + bx + c$ , it follows that

$a = 1$ ,  $b = -14$ , and  $c = 22$ . Therefore, the value of  $y$  reaches its minimum when

$x = -\frac{(-14)}{2(1)}$ , or  $x = 7$ .

### QUESTION 16

**Choice A** is correct. The  $x$ -intercept of a graph in the  $xy$ -plane is the point on the graph where  $y = 0$ . It's given that function  $h$  is defined by  $h(x) = 4x + 28$ . Therefore, the equation representing the graph of  $y = h(x)$  is  $y = 4x + 28$ . Substituting 0 for  $y$  in the equation  $y = 4x + 28$  yields  $0 = 4x + 28$ . Subtracting 28 from both sides of this equation yields  $-28 = 4x$ . Dividing both sides of this equation by 4 yields  $-7 = x$ . Therefore, the  $x$ -intercept of the graph of  $y = h(x)$  in the  $xy$ -plane is  $(-7, 0)$ . It's given that the  $x$ -intercept of the graph of  $y = h(x)$  is  $(a, 0)$ . Therefore,  $a = -7$ . The  $y$ -intercept of a graph in the  $xy$ -plane is the point on the graph where  $x = 0$ . Substituting 0 for  $x$  in the equation  $y = 4x + 28$  yields  $y = 4(0) + 28$ , or  $y = 28$ . Therefore, the  $y$ -intercept of the graph of  $y = h(x)$  in the  $xy$ -plane is  $(0, 28)$ . It's given that the  $y$ -intercept of the graph of  $y = h(x)$  is  $(0, b)$ . Therefore,  $b = 28$ . If  $a = -7$  and  $b = 28$ , then the value of  $a + b$  is  $-7 + 28$ , or 21.

**Choice B** is incorrect. This is the value of  $b$ , not  $a + b$ . **Choice C** is incorrect and may result from conceptual or calculation errors. **Choice D** is incorrect. This is the value of  $-a + b$ , not  $a + b$ .

### QUESTION 17

The correct answer is 27,556. The area of a square is  $s^2$ , where  $s$  is the side length of the square. Let  $x$  represent the length of each side of square B. Substituting  $x$  for  $s$  in  $s^2$  yields  $x^2$ . It follows that the area of square B is  $x^2$ . It's given that square A has side lengths that are 166 times the side lengths of square B. Since  $x$  represents the length of each side of square B, the length of each side of square A can be represented by the expression  $166x$ . It follows that the area of square A is  $(166x)^2$ , or  $27,556x^2$ . It's given that the area of square A is  $k$  times the area of square B. Since the area of square A is equal to  $27,556x^2$ , and the area of square B is equal to  $x^2$ , an equation representing the given statement is  $27,556x^2 = kx^2$ . Since  $x$  represents the length of each side of square B, the value of  $x$  must be positive. Therefore, the value of  $x^2$  is also positive, so it does not equal 0. Dividing by  $x^2$  on both sides of the equation  $27,556x^2 = kx^2$  yields  $27,556 = k$ . Therefore, the value of  $k$  is 27,556.

### QUESTION 18

**Choice C** is correct. On the line of best fit, an  $x$ -value of 25.5 corresponds to a  $y$ -value between 8 and 8.5. Therefore, at  $x = 25.5$ , 8.2 is closest to the  $y$ -value predicted by the line of best fit.

Choice A is incorrect and may result from conceptual errors. Choice B is incorrect and may result from conceptual errors. Choice D is incorrect and may result from conceptual errors.

### QUESTION 19

**Choice C** is correct. It's given that the measure of angle  $R$  is  $\frac{2\pi}{3}$  radians, and the measure of angle  $T$  is  $\frac{5\pi}{12}$  radians greater than the measure of angle  $R$ . Therefore, the measure of angle  $T$  is equal to  $\frac{2\pi}{3} + \frac{5\pi}{12}$  radians. Multiplying  $\frac{2\pi}{3}$  by  $\frac{4}{4}$  to get a common denominator with  $\frac{5\pi}{12}$  yields  $\frac{8\pi}{12}$ . Therefore,  $\frac{2\pi}{3} + \frac{5\pi}{12}$  is equivalent to  $\frac{8\pi}{12} + \frac{5\pi}{12}$ , or  $\frac{13\pi}{12}$ . Therefore, the measure of angle  $T$  is  $\frac{13\pi}{12}$  radians.

The measure of angle  $T$ , in degrees, can be found by multiplying its measure, in radians, by  $\frac{180}{\pi}$ . This yields  $\frac{13\pi}{12} \times \frac{180}{\pi}$ , which is equivalent to 195 degrees.

Therefore, the measure of angle  $T$  is 195 degrees.

Choice A is incorrect. This is the number of degrees that the measure of angle  $T$  is greater than the measure of angle  $R$ . Choice B is incorrect. This is the measure of angle  $R$ , in degrees. Choice D is incorrect and may result from conceptual or calculation errors.

### QUESTION 20

**Choice B** is correct. It's given that the formula  $P = C(2)^{rt}$  gives the number of bacteria in a growth medium, where  $r$  and  $C$  are constants and  $P$  is the number of bacteria  $t$  hours after the initial measurement. It's also given that a scientist initially measures 12,000 bacteria in the growth medium. Since the initial measurement is 0 hours after the initial measurement, it follows that when  $t = 0$ ,  $P = 12,000$ . Substituting 0 for  $t$  and 12,000 for  $P$  in the given equation yields  $12,000 = C(2)^{r(0)}$ , or  $12,000 = C(2)^0$ , which is equivalent to  $12,000 = C$ . It's given that 4 hours later, the scientist measures 24,000 bacteria, or when  $t = 4$ ,  $P = 24,000$ . Substituting 4 for  $t$ , 24,000 for  $P$ , and 12,000 for  $C$  in the given equation yields  $24,000 = 12,000(2)^{4r}$ . Dividing each side of this equation by 12,000 yields  $2 = 2^{4r}$ , or  $2^1 = 2^{4r}$ , which is equivalent to  $1 = 4r$ . Dividing both

sides of this equation by 4 yields  $\frac{1}{4} = r$ . Therefore, the value of  $r$  is  $\frac{1}{4}$ .

Choice A is incorrect. This is the value of the reciprocal of  $C$ . Choice C is incorrect. This is the value of the reciprocal of  $r$ . Choice D is incorrect. This is the value of  $C$ .

### QUESTION 21

The correct answer is  $-3$ . Squaring both sides of the given equation yields  $(x - 2)^2 = 3x + 34$ , which can be rewritten as  $x^2 - 4x + 4 = 3x + 34$ . Subtracting  $3x$  and 34 from both sides of this equation yields  $x^2 - 7x - 30 = 0$ . This quadratic equation can be rewritten as  $(x - 10)(x + 3) = 0$ . According to the zero product property,  $(x - 10)(x + 3)$  equals zero when either  $x - 10 = 0$  or  $x + 3 = 0$ . Solving each of these equations for  $x$  yields  $x = 10$  or  $x = -3$ . Therefore, the given equation has two solutions, 10 and  $-3$ . Of these two solutions,  $-3$  is the smallest solution to the given equation.

**QUESTION 22**

**Choice C** is correct. Subtracting the expression  $(x - 29)$  from both sides of the given equation yields  $0 = (x - a)(x - 29) - (x - 29)$ , which can be rewritten as  $0 = (x - a)(x - 29) + (-1)(x - 29)$ . Since the two terms on the right-hand side of this equation have a common factor of  $(x - 29)$ , it can be rewritten as  $0 = (x - 29)(x - a + (-1))$ , or  $0 = (x - 29)(x - a - 1)$ . Since  $x - a - 1$  is equivalent to  $x - (a + 1)$ , the equation  $0 = (x - 29)(x - a - 1)$  can be rewritten as  $0 = (x - 29)(x - (a + 1))$ . By the zero product property, it follows that  $x - 29 = 0$  or  $x - (a + 1) = 0$ . Adding 29 to both sides of the equation  $x - 29 = 0$  yields  $x = 29$ . Adding  $a + 1$  to both sides of the equation  $x - (a + 1) = 0$  yields  $x = a + 1$ . Therefore, the two solutions to the given equation are 29 and  $a + 1$ . Thus, only  $a + 1$  and 29, not  $a$ , are solutions to the given equation.

**Choice A** is incorrect and may result from conceptual or calculation errors.

**Choice B** is incorrect and may result from conceptual or calculation errors.

**Choice D** is incorrect and may result from conceptual or calculation errors.

# Math

## Module 2 (22 questions)

### QUESTION 1

**Choice B** is correct. 10% of a quantity means  $\frac{10}{100}$  times the quantity. Therefore, 10% of 470 can be represented as  $\frac{10}{100}(470)$ , which is equivalent to  $0.10(470)$ , or 47. Therefore, 10% of 470 is 47.

*Choice A* is incorrect. This is 10% of 370, not 10% of 470. *Choice C* is incorrect. This is 90% of 470, not 10% of 470. *Choice D* is incorrect. This is  $470 - 10$ , not 10% of 470.

### QUESTION 2

**Choice B** is correct. The height of each bar in the bar graph given represents the number of students that voted for the activity specified at the bottom of the bar. The bar for activity 3 has a height that is between 35 and 40. In other words, the number of students that chose activity 3 is between 35 students and 40 students. Of the given choices, 39 is the only value between 35 and 40. Therefore, 39 students chose activity 3.

*Choice A* is incorrect and may result from conceptual errors. *Choice C* is incorrect. This is the number of students that chose activity 5, not activity 3. *Choice D* is incorrect and may result from conceptual errors.

### QUESTION 3

The correct answer is 40. Subtracting 5 from both sides of the given equation yields  $4x = 160$ . Dividing both sides of this equation by 4 yields  $x = 40$ . Therefore, the solution to the given equation is 40.

### QUESTION 4

The correct answer is 9. It's given that the customer spent \$27 to purchase oranges at \$3 per pound. Therefore, the number of pounds of oranges the customer purchased is  $\$27 \left(\frac{1 \text{ pound}}{\$3}\right)$ , or 9 pounds.

**QUESTION 5**

The correct answer is 2. Substituting 8 for  $f(x)$  in the given equation yields  $8 = 4x$ . Dividing the left- and right-hand sides of this equation by 4 yields  $x = 2$ . Therefore, the value of  $x$  is 2 when  $f(x) = 8$ .

**QUESTION 6**

**Choice A** is correct. It's given that  $g(x) = x^2 + 9$ . Substituting 25 for  $g(x)$  in this equation yields  $25 = x^2 + 9$ . Subtracting 9 from both sides of this equation yields  $16 = x^2$ . Taking the square root of each side of this equation yields  $x = \pm 4$ . It follows that  $g(x) = 25$  when the value of  $x$  is 4 or -4. Only 4 is listed among the choices.

**Choice B** is incorrect and may result from conceptual or calculation errors.

**Choice C** is incorrect and may result from conceptual or calculation errors.

**Choice D** is incorrect and may result from conceptual or calculation errors.

**QUESTION 7**

**Choice D** is correct. The  $y$ -intercept of a graph in the  $xy$ -plane is the point at which the graph crosses the  $y$ -axis. The graph shown crosses the  $y$ -axis at the point  $(0, 8)$ . Therefore, the  $y$ -intercept of the graph shown is  $(0, 8)$ .

**Choice A** is incorrect and may result from conceptual or calculation errors.

**Choice B** is incorrect and may result from conceptual or calculation errors.

**Choice C** is incorrect and may result from conceptual or calculation errors.

**QUESTION 8**

**Choice C** is correct. It's given that the cost of renting a tent is \$11 per day for  $d$  days. Multiplying the rental cost by the number of days yields  $\$11d$ , which represents the cost of renting the tent for  $d$  days before the insurance is added. Adding the onetime insurance fee of \$10 to the rental cost of  $\$11d$  gives the total cost  $c$ , in dollars, which can be represented by the equation  $c = 11d + 10$ .

**Choice A** is incorrect. This equation represents the total cost to rent the tent if the insurance fee was charged every day. **Choice B** is incorrect. This equation represents the total cost to rent the tent if the daily fee was  $\$(d + 11)$  for 10 days. **Choice D** is incorrect. This equation represents the total cost to rent the tent if the daily fee was \$10 and the onetime fee was \$11.

**QUESTION 9**

**Choice D** is correct. The expression  $\frac{4}{4x - 5} - \frac{1}{x + 1}$  can be rewritten as  $\frac{4}{4x - 5} + \frac{(-1)}{x + 1}$ . To add the two terms of this expression, the terms can be rewritten with a common denominator. Since  $\frac{x + 1}{x + 1} = 1$ , the expression  $\frac{4}{4x - 5}$  can be rewritten as  $\frac{(x + 1)(4)}{(x + 1)(4x - 5)}$ . Since  $\frac{4x - 5}{4x - 5} = 1$ , the expression  $\frac{-1}{x + 1}$  can be rewritten as  $\frac{(4x - 5)(-1)}{(4x - 5)(x + 1)}$ . Therefore, the expression  $\frac{4}{4x - 5} + \frac{(-1)}{x + 1}$  can be written as  $\frac{(x + 1)(4)}{(x + 1)(4x - 5)} + \frac{(4x - 5)(-1)}{(4x - 5)(x + 1)}$ , which is equivalent to  $\frac{(x + 1)(4) + (4x - 5)(-1)}{(x + 1)(4x - 5)}$ . Applying the distributive property to each term of the numerator yields  $\frac{(4x + 4) + (-4x + 5)}{(x + 1)(4x - 5)}$ , or  $\frac{(4x + (-4x)) + (4 + 5)}{(x + 1)(4x - 5)}$ . Adding like terms in the numerator yields  $\frac{9}{(x + 1)(4x - 5)}$ .

Choice A is incorrect and may result from conceptual or calculation errors.

Choice B is incorrect and may result from conceptual or calculation errors.

Choice C is incorrect and may result from conceptual or calculation errors.

## QUESTION 10

**Choice D** is correct. It's given that the graph shows the linear relationship between  $x$  and  $y$ . The given graph passes through the points  $(0, -5)$ ,  $(1, -3)$ , and  $(2, -1)$ . It follows that when  $x = 0$ , the corresponding value of  $y$  is  $-5$ , when  $x = 1$ , the corresponding value of  $y$  is  $-3$ , and when  $x = 2$ , the corresponding value of  $y$  is  $-1$ . Of the given choices, only the table in choice D gives these three values of  $x$  and their corresponding values of  $y$  for the relationship shown in the graph.

Choice A is incorrect. This table represents a relationship between  $x$  and  $y$  such that the graph passes through the points  $(0, 0)$ ,  $(1, -7)$ , and  $(2, -9)$ . Choice B is incorrect. This table represents a relationship between  $x$  and  $y$  such that the graph passes through the points  $(0, 0)$ ,  $(1, -3)$ , and  $(2, -1)$ . Choice C is incorrect. This table represents a linear relationship between  $x$  and  $y$  such that the graph passes through the points  $(0, -5)$ ,  $(1, -7)$ , and  $(2, -9)$ .

## QUESTION 11

The correct answer is 70. Based on the figure, the angle with measure  $110^\circ$  and the angle vertical to the angle with measure  $x^\circ$  are same side interior angles.

Since vertical angles are congruent, the angle vertical to the angle with measure  $x^\circ$  also has measure  $x^\circ$ . It's given that lines  $s$  and  $t$  are parallel. Therefore, same side interior angles between lines  $s$  and  $t$  are supplementary. It follows that  $x + 110 = 180$ . Subtracting 110 from both sides of this equation yields  $x = 70$ .

## QUESTION 12

**Choice D** is correct. The perimeter of a figure is equal to the sum of the measurements of the sides of the figure. It's given that the rectangle has a length of 4 inches and a width of 9 inches. Since a rectangle has 4 sides, of which opposite sides are parallel and equal, it follows that the rectangle has two sides with a length of 4 inches and two sides with a width of 9 inches. Therefore, the perimeter of this rectangle is  $4 + 4 + 9 + 9$ , or 26 inches.

Choice A is incorrect. This is the sum, in inches, of the length and the width of the rectangle. Choice B is incorrect. This is the sum, in inches, of the two lengths and the width of the rectangle. Choice C is incorrect. This is the sum, in inches, of the length and the two widths of the rectangle.

## QUESTION 13

**Choice D** is correct. To express  $j$  in terms of  $k$  and  $m$ , the given equation must

be solved for  $j$ . Dividing each side of the given equation by 8 yields  $j = \frac{k + 15m}{8}$ .

Choice A is incorrect. This is equivalent to  $8j = k + 120m$ . Choice B is incorrect. This is equivalent to  $8j = 8k + 15m$ . Choice C is incorrect. This is equivalent

to  $\frac{j}{8} = k + 15m$ .

## QUESTION 14

**Choice A** is correct. The given point,  $(8, 2)$ , is located in the first quadrant in the  $xy$ -plane. The system of inequalities in choice A represents all the points in the first quadrant in the  $xy$ -plane. Therefore,  $(8, 2)$  is a solution to the system of inequalities in choice A.

Alternate approach: Substituting 8 for  $x$  in the first inequality in choice A,  $x > 0$ , yields  $8 > 0$ , which is true. Substituting 2 for  $y$  in the second inequality in choice A,  $y > 0$ , yields  $2 > 0$ , which is true. Since the coordinates of the point  $(8, 2)$  make the inequalities  $x > 0$  and  $y > 0$  true, the point  $(8, 2)$  is a solution to the system of inequalities consisting of  $x > 0$  and  $y > 0$ .

*Choice B* is incorrect. This system of inequalities represents all the points in the fourth quadrant, not the first quadrant, in the  $xy$ -plane. *Choice C* is incorrect. This system of inequalities represents all the points in the second quadrant, not the first quadrant, in the  $xy$ -plane. *Choice D* is incorrect. This system of inequalities represents all the points in the third quadrant, not the first quadrant, in the  $xy$ -plane.

## QUESTION 15

**Choice B** is correct. The equation representing a linear model can be written in the form  $y = a + bx$ , or  $y = bx + a$ , where  $b$  is the slope of the graph of the model and  $(0, a)$  is the  $y$ -intercept of the graph of the model. The scatterplot shows that as the  $x$ -values of the data points increase, the  $y$ -values of the data points decrease, which means the graph of an appropriate linear model has a negative slope. Therefore,  $b < 0$ . The scatterplot also shows that the data points are close to the  $y$ -axis at a positive value of  $y$ . Therefore, the  $y$ -intercept of the graph of an appropriate linear model has a positive  $y$ -coordinate, which means  $a > 0$ . Of the given choices, only choice B,  $y = -1.9x + 10.1$ , has a negative value for  $b$ , the slope, and a positive value for  $a$ , the  $y$ -coordinate of the  $y$ -intercept.

*Choice A* is incorrect. The graph of this model has a  $y$ -intercept with a negative  $y$ -coordinate, not a positive  $y$ -coordinate. *Choice C* is incorrect. The graph of this model has a positive slope, not a negative slope, and a  $y$ -intercept with a negative  $y$ -coordinate, not a positive  $y$ -coordinate. *Choice D* is incorrect. The graph of this model has a positive slope, not a negative slope.

## QUESTION 16

**Choice A** is correct. Since it's given that the account balance,  $A(t)$ , in dollars, after  $t$  years can be modeled by an exponential function, it follows that function  $A$  can be written in the form  $A(t) = Nr^t$ , where  $N$  is the initial value of the function and  $r$  is a constant related to the growth of the function. It's given that the initial balance of the account is \$36,100.00, so it follows that the initial value of the function, or  $N$ , must be 36,100.00. Substituting 36,100.00 for  $N$  in the equation  $A(t) = Nr^t$  yields  $A(t) = 36,100.00r^t$ . It's given that the account balance after 13 years, or when  $t = 13$ , is \$68,071.93. It follows that  $A(13) = 68,071.93$ , or  $36,100.00r^{13} = 68,071.93$ . Dividing each side of the

equation  $36,100.00r^{13} = 68,071.93$  by 36,100.00 yields  $r^{13} = \frac{68,071.93}{36,100.00}$ . Taking

the 13th root of both sides of this equation yields  $r = \sqrt[13]{\frac{68,071.93}{36,100.00}}$ , or

$r$  is approximately equal to 1.05. Substituting 1.05 for  $r$  in the equation  $A(t) = 36,100.00r^t$  yields  $A(t) = 36,100.00(1.05)^t$ , so the equation  $A(t) = 36,100.00(1.05)^t$  could define  $A$ .

*Choice B* is incorrect. Substituting 0 for  $t$  in this function indicates an initial balance of \$31,971.93, rather than \$36,100.00. *Choice C* is incorrect.

Substituting 0 for  $t$  in this function indicates an initial balance of \$31,971.93, rather than \$36,100.00. Additionally, this function indicates the account balance is decreasing, rather than increasing, over time. *Choice D* is incorrect. This function indicates the account balance is decreasing, rather than increasing, over time.

## QUESTION 17

The correct answer is 9. The given equation can be rewritten as  $5|4 - x| = 25$ . Dividing each side of this equation by 5 yields  $|4 - x| = 5$ . By the definition of absolute value, if  $|4 - x| = 5$ , then  $4 - x = 5$  or  $4 - x = -5$ . Subtracting 4 from each side of the equation  $4 - x = 5$  yields  $-x = 1$ . Dividing each side of this equation by  $-1$  yields  $x = -1$ . Similarly, subtracting 4 from each side of the equation  $4 - x = -5$  yields  $-x = -9$ . Dividing each side of this equation by  $-1$  yields  $x = 9$ . Therefore, since the two solutions to the given equation are  $-1$  and  $9$ , the positive solution to the given equation is  $9$ .

## QUESTION 18

The correct answer is 6. Applying the distributive property to the expression  $ry^4(15y - 9)$  yields  $15ry^5 - 9ry^4$ . Since  $90y^5 - 54y^4$  is equivalent to  $ry^4(15y - 9)$ , it follows that  $90y^5 - 54y^4$  is also equivalent to  $15ry^5 - 9ry^4$ . Since these expressions are equivalent, it follows that corresponding coefficients are equivalent. Therefore,  $90 = 15r$  and  $-54 = -9r$ . Solving either of these equations for  $r$  will yield the value of  $r$ . Dividing both sides of  $90 = 15r$  by 15 yields  $6 = r$ . Therefore, the value of  $r$  is 6.

## QUESTION 19

**Choice D** is correct. It's given that the expression  $w(w + 9)$  represents the area, in square centimeters, of a rectangular cutting board, where  $w$  is the width, in centimeters, of the cutting board. The area of a rectangle can be calculated by multiplying its length by its width. It follows that the length, in centimeters, of the cutting board is represented by the expression  $(w + 9)$ .

**Choice A** is incorrect. This expression represents the area, in square centimeters, of the cutting board, not its length, in centimeters. **Choice B** is incorrect. This expression represents the width, in centimeters, of the cutting board, not its length. **Choice C** is incorrect. This is the difference between the length, in centimeters, and the width, in centimeters, of the cutting board, not its length, in centimeters.

## QUESTION 20

**Choice D** is correct. All the tables in the choices have the same three values of  $x$ , so each of the three values of  $x$  can be substituted in the given inequality to compare the corresponding values of  $y$  in each of the tables. Substituting 3 for  $x$  in the given inequality yields  $y > 13(3) - 18$ , or  $y > 21$ . Therefore, when  $x = 3$ , the corresponding value of  $y$  is greater than 21. Substituting 5 for  $x$  in the given inequality yields  $y > 13(5) - 18$ , or  $y > 47$ . Therefore, when  $x = 5$ , the corresponding value of  $y$  is greater than 47. Substituting 8 for  $x$  in the given inequality yields  $y > 13(8) - 18$ , or  $y > 86$ . Therefore, when  $x = 8$ , the corresponding value of  $y$  is greater than 86. For the table in choice D, when  $x = 3$ , the corresponding value of  $y$  is 26, which is greater than 21; when  $x = 5$ , the corresponding value of  $y$  is 52, which is greater than 47; when  $x = 8$ , the corresponding value of  $y$  is 91, which is greater than 86. Therefore, the table in choice D gives values of  $x$  and their corresponding values of  $y$  that are all solutions to the given inequality.

**Choice A** is incorrect. In the table for choice A, when  $x = 3$ , the corresponding value of  $y$  is 21, which is not greater than 21; when  $x = 5$ , the corresponding value of  $y$  is 47, which is not greater than 47; when  $x = 8$ , the corresponding value of  $y$  is 86, which is not greater than 86. **Choice B** is incorrect. In the table for choice B, when  $x = 5$ , the corresponding value of  $y$  is 42, which is not greater than 47; when  $x = 8$ , the corresponding value of  $y$  is 86, which is not greater than 86.

**Choice C** is incorrect. In the table for choice C, when  $x = 3$ , the corresponding value of  $y$  is 16, which is not greater than 21; when  $x = 5$ , the corresponding value of  $y$  is 42, which is not greater than 47; when  $x = 8$ , the corresponding value of  $y$  is 81, which is not greater than 86.

## QUESTION 21

**Choice B** is correct. It's given that  $g(x) = f(x - 1)$ . Since  $f(x) = (x + 6)(x + 5)(x + 1)$ , it follows that  $f(x - 1) = (x - 1 + 6)(x - 1 + 5)(x - 1 + 1)$ . Combining like terms yields  $f(x - 1) = (x + 5)(x + 4)(x)$ . Therefore,  $g(x) = x(x + 5)(x + 4)$ . The  $x$ -intercepts of a graph in the  $xy$ -plane are the points where  $y = 0$ . The  $x$ -coordinates of the  $x$ -intercepts of the graph of  $y = g(x)$  in the  $xy$ -plane can be found by solving the equation  $0 = x(x + 5)(x + 4)$ . Applying the zero product property to this equation yields three equations:  $x = 0$ ,  $x + 5 = 0$ , and  $x + 4 = 0$ . Solving each of these equations for  $x$  yields  $x = 0$ ,  $x = -5$ , and  $x = -4$ , respectively. Therefore, the  $x$ -intercepts of the graph of  $y = g(x)$  are  $(0, 0)$ ,  $(-5, 0)$ , and  $(-4, 0)$ . It follows that the values of  $a$ ,  $b$ , and  $c$  are 0, -5, and -4. Thus, the value of  $a + b + c$  is  $0 + (-5) + (-4)$ , which is equal to -9.

**Choice A** is incorrect. This is the value of  $a + b + c$  if  $g(x) = f(x + 1)$ .

**Choice C** is incorrect. This is the value of  $a + b + c - 1$  if  $g(x) = (x - 6)(x - 5)(x - 1)$ .

**Choice D** is incorrect. This is the value of  $a + b + c$  if  $f(x) = (x - 6)(x - 5)(x - 1)$ .

## QUESTION 22

**Choice A** is correct. When a square is inscribed in a circle, a diagonal of the square is a diameter of the circle. It's given that a square is inscribed in a circle and the length of a radius of the circle is  $\frac{20\sqrt{2}}{2}$  inches. Therefore, the length of a diameter of the circle is  $2\left(\frac{20\sqrt{2}}{2}\right)$  inches, or  $20\sqrt{2}$  inches. It follows that

the length of a diagonal of the square is  $20\sqrt{2}$  inches. A diagonal of a square separates the square into two right triangles in which the legs are the sides of the square and the hypotenuse is a diagonal. Since a square has 4 congruent sides, each of these two right triangles has congruent legs and a hypotenuse of length  $20\sqrt{2}$  inches. Since each of these two right triangles has congruent legs, they are both 45-45-90 triangles. In a 45-45-90 triangle, the length of the hypotenuse is  $\sqrt{2}$  times the length of a leg. Let  $s$  represent the length of a leg of one of these 45-45-90 triangles. It follows that  $20\sqrt{2} = \sqrt{2}(s)$ . Dividing both sides of this equation by  $\sqrt{2}$  yields  $20 = s$ . Therefore, the length of a leg of one of these 45-45-90 triangles is 20 inches. Since the legs of these two 45-45-90 triangles are the sides of the square, it follows that the side length of the square is 20 inches.

**Choice B** is incorrect. This is the length of a radius, in inches, of the circle.

**Choice C** is incorrect. This is the length of a diameter, in inches, of the circle.

**Choice D** is incorrect and may result from conceptual or calculation errors.

# SAT Practice Test Worksheet: Answer Key

Mark each of your correct answers below, then add them up to get your raw score on each module.

## Reading and Writing

Module 1

QUESTION #	CORRECT	MARK YOUR CORRECT ANSWERS
1	B	
2	D	
3	C	
4	B	
5	A	
6	D	
7	A	
8	A	
9	A	
10	D	
11	A	
12	B	
13	A	
14	C	
15	A	
16	D	
17	D	
18	D	
19	C	
20	C	
21	B	
22	D	
23	C	
24	A	
25	D	
26	D	
27	C	

Module 2

QUESTION #	CORRECT	MARK YOUR CORRECT ANSWERS
1	B	
2	B	
3	C	
4	B	
5	D	
6	A	
7	D	
8	A	
9	A	
10	C	
11	C	
12	C	
13	B	
14	D	
15	A	
16	D	
17	A	
18	B	
19	B	
20	A	
21	D	
22	D	
23	D	
24	A	
25	C	
26	B	
27	D	

## Math

Module 1

QUESTION #	CORRECT	MARK YOUR CORRECT ANSWERS
1	C	
2	D	
3	.2, 1/5	
4	B	
5	B	
6	C	
7	B	
8	A	
9	A	
10	C	
11	24	
12	D	
13	C	
14	80	
15	7	
16	A	
17	27556	

Module 2

QUESTION #	CORRECT	MARK YOUR CORRECT ANSWERS
1	B	
2	B	
3	40	
4	9	
5	2	
6	A	
7	D	
8	C	
9	D	
10	D	
11	70	
12	D	
13	D	
14	A	
15	B	
16	A	
17	9	
18	6	
19	D	
20	D	
21	B	
22	A	

### READING AND WRITING SECTION RAW SCORE

(Total # of Correct Answers,  
Excluding Grayed-Out Rows)

Module 1

Module 2

### MATH SECTION RAW SCORE

(Total # of Correct Answers,  
Excluding Grayed-Out Rows)

Module 1

Module 2