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TEST 1: ENGLISH

1. **(D) *English/Rhetorical Skills/Style/Clarity of Meaning.*** The original is both inexact and wordy. It is not the weight of the plants that is slumping; it is the plants that are slumping because of the weight. (A) is incorrect because the original does not say clearly what the writer means to say. The plants are slumping because of the weight; the weight is not slumping. (B) substitutes “size” for “weight” and so has the same problem as the original. It is not the “size” of the plants that is slumping but the plants themselves. (C) would be redundant given the rest of the sentence: ripening plants [have] ripening fruit. (D) solves the problem of the original by deleting the underlined phrase. The resulting sentence makes it clear that it is the plants that are slumping.
2. **(G) *English/Usage and Mechanics/Sentence Structure/Misplaced Modifiers.*** The original contains an ambiguous modifier. (F) is wrong because the introductory adjective phrase, “heavy and warm,” will be interpreted by the reader to apply to the first noun or pronoun that follows, in this case, “I.” (The reader logically looks to the noun or pronoun closest to the modifying phrase when trying to determine what the phrase describes. Since, in this case, the word “I” does not make sense, the reader must then search the sentence for another noun which might be “warm and heavy.”) It is not good writing to make the reader figure out the meaning—good writing should be clear, and (G) clears up the misunderstanding. The phrase “heavy and warm” is closest to the noun “fruit,” making it clear that the fruit, not the writer, is heavy and warm. (H) doesn’t improve on the original. It’s not clear from the position of “pleasantly” what that adverb is supposed to modify. Plus, the “it” doesn’t have a clear and unambiguous antecedent or referent. The writer wants “it” to mean something like the whole experience, but there is no word for “it” to replace. If you doubt that, try substituting one and then another noun from earlier in the sentence for “it.” You won’t find a substitution that works. (J) fails to clear up the ambiguity in the original. (J) reads as though the writer, “I,” is heavy.
3. **(C) *English/Usage and Mechanics/Sentence Structure/Faulty Parallelism.*** The original is an example of faulty parallelism. The underlined portion needs to parallel the phrase “walk the vines” in order for the sentence to make sense. Both “walk the vines” and correct answer choice (C) begin with a verb which operates together with the participle “to” in order to form an infinitive. (B) fails to provide the needed parallelism. The resulting sentence would read: time to walk and we select. (D) fails to provide the needed parallelism. The sentence would still contain the “-ing” form instead of the “to” or infinitive form.
4. **(J) *English/Rhetorical Skills/Organization/Sentence-Level Structure.*** This item asks for the most appropriate placement for sentence 4. There are two clues, one grammatical and one logical, that suggest that sentence 4 should be relocated. First, the phrase “that smell” doesn’t seem to refer to anything immediately preceding the phrase. And the reader will be expecting a connection: which smell is “that smell”? The smell, however, is the “pungent smell” found in sentence 2, so sentence 4 would make more sense coming immediately after sentence 2. Second, as a matter of logic, the writer is telling a story, and the observations are related in chronological order:

I grew up in North Carolina, and I liked to can tomatoes.

The tomatoes would have a distinct aroma in late summer.

I can still remember it all.

The aroma meant it was time to pick the tomatoes.

The third sentence should be the last one in the paragraph. The original placement suffers from the two weaknesses described above. As for (G), the sentence would not be a very good choice for the first sentence of the passage, both because the “that” needs to refer to something and because the time frame has not yet been established. As for (H), this placement would leave the “that” hanging without anything to connect to, and it would introduce the idea of choosing “the best” without first saying what was being chosen, that is, the tomatoes. So, (J) is the correct answer.

5. (C) **English/Rhetorical Skills/Strategy/Appropriate Supporting Material and Effective Transitional Sentence.** The item asks for the purpose of the quoted phrase. So far as the content of the story is concerned, the phrase tells the reader that boiling water is one of the first steps in canning tomatoes. And so far as the structure of the passage goes, the phrase establishes that this step takes place “while” other things are done. Then, when the water has begun to boil, the main sequence of steps begins. So, the phrase provides a transition from the “washing step” to the other steps described in the paragraph. Additionally, the process of elimination leaves only (C). (A) is wrong because the first sentence of the paragraph does not describe something necessarily done by the writer. For all we know, the boiling water is the responsibility of the writer’s mother, another family member, or someone else not mentioned. (B) is wrong because the word “kitchen” would be left by the edit, thus identifying the place where the canning occurs. Additionally, the phrase does not explain why boiling water is needed. (C) provides the connection between the washing of the tomatoes and the other steps, including dunking them to loosen the peels. (D) is wrong because this information is provided by the next sentence, not by the phrase to be deleted.
6. (J) **English/Usage and Mechanics/Punctuation/Commas.** The original contains a punctuation error. The comma following “I” unnecessarily separates the subject from the verb. (G) fails to correct the original. Additionally, (G) eliminates the comma following “next.” But introductory conjunctive adverbs such as “next,” “then,” and “afterwards” are usually set off by a comma. This may not be an official, inviolable rule of grammar, but it is good writing practice. (H) simply changes the location of the comma error. A comma should not be used to separate the two elements of a compound subject. Plus, the comma following “next” but eliminated by (H) is useful because it helps to keep the structure of the sentence clear. (J) eliminates the unnecessary and disruptive comma found in the original while preserving the useful comma following “next.”
7. (A) **English/Usage and Mechanics/No Change.** The original sentence is correct. In this case, the three phrases, “standing in a steamy kitchen,” “overalls spattered with pulp,” and “sweat dripping from my chin” all vividly describe the image of the speaker. (B) is wrong because an unnecessary comma has been inserted after “spattered,” thus disrupting the logical flow of the sentence. The phrase “with pulp” is not itself an element in the series but a part of the second element. (C) is wrong because an unnecessary comma has been inserted following “overalls,” making “spattered with pulp” seem like an independent element in the series rather than a part of the second element. (D) is wrong because commas are needed to separate the three elements.
8. (F) **English/Rhetorical Skills/No Change.** This item asks for the wording that best reinforces the visual impression of the writer in the kitchen canning tomatoes. One of the important elements of the experience is the messy scene, and the original best conveys this picture: the seeds were stuck to the walls. (G) is not as effective as the original because it lacks any visual element. It would be a different case if (G), say, read: while we grinned. Arguably, this rendering has a visual element, though not as pronounced as that of the original. (H) is not a particularly interesting choice in light of the stem. The stem instructs us to find a phrasing that helps a reader to “visualize” the scene. And there is no element of concrete visualization found in (H). Simply saying “it was quite a scene” doesn’t convey any detail to the reader. (J) is probably the weakest response. It doesn’t contain an error, but it doesn’t respond effectively to the stem. And students who pick (J) have probably failed to give sufficient weight to what is demanded by the stem: visualize the specifics of the scene.
9. (C) **English/Rhetorical Skills/Strategy/Appropriate Supporting Material.** There is nothing objectionable about the original. Furthermore, it provides a useful transition as the writer shifts from describing visual impressions to auditory ones: the radio, the fan, and the hinge. (A) is incorrect because the sentence does not “disrupt” the visual image. The writer simply moves on to another topic. (B) is wrong because it is perfectly acceptable for the writer to discuss the sounds as well as the sights of the canning operation. And in any case, the sentence is not really so much about the writer’s enthusiasm for singing as it is about singing in a particular context. (C) correctly concludes that the sentence belongs in the passage and notes that the paragraph is about the writer’s memories, that is, the sights, sounds, and feel of the canning operation. (D) reaches the right conclusion for the wrong reason. The sentence does not create a contrast. In fact, standing in a steamy kitchen covered with tomatoes is not really “reserved behavior.”

10. **(H) English/Usage and Mechanics/Punctuation/Apostrophes.** This item could be classified as testing use of the apostrophe, testing a specific pronoun (its), or testing adjective formation (squeaky versus squeakier). Nothing really turns on using one rather than the other. The errors tested here are fairly simple. The original is wrong because this sentence requires the third person singular possessive pronoun, which is “its.” (G) is wrong because the third person singular possessive pronoun is “its” not “it’s.” “It’s” is the contraction form of “it is.” Additionally, “squeakier” is the comparative form of the adjective “squeaky.” (H) corrects the error in the original by substituting the third person singular possessive pronoun, “its,” for “its’,” a word that does not exist in English. (J) is wrong because “it’s” is the contraction of “it is” and not a possessive.
11. **(B) English/Usage and Mechanics/Sentence Structure/Fragments.** The problem with the word group containing the underlined original is that there is no main verb. “Forming” is a participle, and a main verb must be a conjugated verb form (showing tense). What makes this item more difficult than it might otherwise be is the participle phrase that concludes the preceding sentence: sending a breeze our way. So, to the ear, it may sound as though “patches forming” has the same grammatical function. But the first sentence ends with the period following “way,” and the new grouping is a fragment. (A) is wrong because the original is a fragment, not a sentence. (B) is correct because “would form” is a conjugated verb form that functions as the main verb for the sentence, and “would form” implies that the formation of salt patches was repeated regularly in the past. (C) provides a main verb, but “form” is inconsistent with the other verbs in the paragraph. The other verbs describe conditions repeated in the past (“came,” “was,” “sang,” “would be”), but “form” is the present tense. (D) is wrong because just omitting the infinitive would not provide a main verb for the fragment.
12. **(F) English/Rhetorical Skills/No Change.** This stem asks for the best sentence to present a contrast, specifically a visual contrast with the bleakness of winter. Grammar errors are not in play here. The item asks about the best sentence for accomplishing a particular rhetorical purpose. (F) presents a nice contrast. “Bleak” indicates “lifeless,” and winter suggests “stark.” “Colorful” provides a nice visual contrast. (G) offers a very uninteresting image: all the same size. That image really doesn’t contrast with a bleak winter scene. (H) doesn’t provide any visual contrast at all. (J) provides only a weak visual contrast. Twenty jars creates a visual image of uniformity, but uniformity does not contrast with “winter bleakness” nearly so successfully as “colorful.”
13. **(B) English/Usage and Mechanics/Punctuation/Apostrophes.** This item is a straightforward test of how to form the possessive of “family.” (A) is incorrect because the possessive of “family” (singular) is “family’s.” (B) is correct because the possessive of the singular noun “family” is formed by adding an apostrophe and an “s.” (C) is wrong because “families” is the plural of “family.” Most nouns ending in a consonant followed by “-y” form the plural by dropping the “-y” and adding “-ies”: army → armies; calamity → calamities; forgery → forgeries; galaxy → galaxies. (D) is wrong because “families’” is the possessive of the plural noun “families”: the families’ hopes were fulfilled when the missing children were found unharmed.
14. **(F) English/Usage and Mechanics/No Change.** This is a straightforward item about which preposition would be used by a fluent speaker of English to create an idiomatic expression. (F) is correct because the English idiom for this context is “drift back to.” (G) is incorrect because the use of “with” suggests that the writer and the smell move together, rather than the smell returning to the writer in the form of memory. (H) is wrong because the only meaning of “before” that is even arguable here is “in front of,” and that is not the meaning intended by the writer. (J) is wrong because “along” has a meaning that is out of place in this context.
15. **(C) English/Rhetorical Skills/Strategy/Appropriate Supporting Material.** This item asks, in essence, about the purpose of the final paragraph. So, there is no question about right or wrong grammar. Rather, the right answer explains the meaning of the final paragraph. For this reason, this is very much a reading comprehension item. (A) is wrong because the paragraph is not intended to suggest that memories are fading even though the writer is older. Instead, the phrase “drift back to me” is supposed to suggest that a very powerful connection is still operating. (B) is wrong and simply misreads the information about the writer’s living situation. The writer isn’t presently living in North Carolina, but that does not mean that the writer intends to move. (C) is the best description of the paragraph. In essence, the writer gets homesick and misses

the family. The canned tomatoes make the memories more vivid. (D) is wrong because the additional personal information in the final paragraph helps to put the childhood experiences into a context: the past is past but well-remembered.

16. **(H) English/Usage and Mechanics/Punctuation/Commas.** The underlined portion of the original contains an appositive, and appositives should be set off with commas. The commas indicate the beginning and end of the phrase which is not part of the main logic of the sentence. As such, the phrase could be removed from the sentence without significantly changing the meaning. (F) is wrong because the original does not include a comma to mark the start of the appositive. (G) is incorrect because the additional comma prematurely ends the appositive. (H) is correct because the appositive is marked by a comma at both the beginning and the end: ...the yew, an evergreen tree with a poisonous fruit and a twisted trunk, was scorned.... (J) is incorrect because it lacks a comma at the beginning of the appositive and contains a comma in the middle of the appositive.
17. **(D) English/Usage and Mechanics/Grammar and Usage/Nouns and Noun Clauses.** The problem with the original is that it is missing the “that” needed to introduce the noun clause that will be the objective complement of “warned.” (A) is wrong because the original is missing the “that” needed to signal a noun clause. (B) fails because the resulting sentence has a verb, “was,” that has no logical role in the sentence. (C) creates a noun clause using “that” but turns the entire word grouping into a fragment by eliminating the main verb “warned.” “Having warned” is a participle and cannot be used as a main verb. (D) provides the missing “that,” so that the complete sentence reads:
- ...Plutarch warned that sleeping in the shade of a yew was a deadly practice.
18. **(J) English/Rhetorical Skills/Style/Conciseness.** An obvious problem with the original is the unnecessary repetition in the phrase “changing or altering,” two words with the same meaning. (F) is wrong because the original contains obviously synonymous and wordy material. (G) eliminates the original repetition but adds new wordiness. The “acquired” is absolutely unnecessary. (H) is both awkward and wordy. You could just say it directly: to alter that. (J) eliminates the redundancy in the original and has the additional advantage of using the infinitive “to alter,” which is preferable to the gerund “altering.”
19. **(A) English/Rhetorical Skills/Organization/Sentence-Level Structure.** This item asks for the most appropriate placement for sentence 2. (A) is correct because it establishes the order of events. Sentence 3 uses the phrase, “about the same time.” In order for this phrase to make sense, the time period must be indicated in the previous sentence. Sentence 2 accomplishes this with the phrase, “in the first century A.D.” (B) is incorrect because Sentence 1 is a much more effective topic sentence for the paragraph and requires a position of prominence. It is not logical, in this case, to place the supporting details before the topic sentence. (C) is wrong because placing Sentence 2 after Sentence 3 would create confusion surrounding the phrase “about the same time” in Sentence 3. (D) is incorrect because it disrupts the chronological sequence used by the writer.
20. **(G) English/Rhetorical Skills/Style/Clarity of Meaning.** The problem with the underlined original is that the sentence is unclear. The pronoun “it” doesn’t have a clear antecedent. (F) is wrong because the original suffers from a lack of clarity. (G) is the correct answer. By substituting “taxol” for the unclear “it,” the writer would make it clear that the taxol is the promising new drug. (H) is incorrect because the unclear “it” has not been corrected and because the change would eliminate the main verb of the clause, thereby reducing it to a fragment. (J) changes the original but doesn’t solve the underlying problem. The “this” is every bit as unclear as the original “it.”
21. **(C) English/Rhetorical Skills/Strategy/Appropriate Supporting Material.** This item asks whether the proposed sentence would be a relevant addition. The answer is “no.” The passage discusses “taxol,” so other discoveries are not really relevant. Additionally, the sentence offered is really almost vacuous. It doesn’t say anything important. The outcome might be different had the proposed sentence been something like:

During this period, there was a great deal of interest in natural, herbal, and other remedies that could be obtained from plants found in nature.

This is not to say that this sentence should definitely be added, but the detail it provides makes it a more likely candidate than the “there were many breakthroughs” given in the item stem. (A) is wrong because the very general nature of the suggested addition doesn’t provide a link to anything. (B) is wrong because the proposed sentence really doesn’t add any detail. As noted above, a sentence that did mention other, similar drugs discovered or tested around the same time might be relevant. Everything would depend on exactly what would be said. But the general statement that “there were other drugs” really doesn’t inform the reader of anything. (C) is the best explanation of why the sentence should not be added to the paragraph. The main focus of the passage is the discovery that yew bark has medical applications. The bare mention of the other possible discoveries doesn’t contribute to the development of the main idea. (D) reaches the right conclusion (the sentence does not belong in the paragraph) but gives the wrong reason. The sentence does not imply anything about the understanding of taxol.

22. **(J) *English/Usage and Mechanics/Grammar and Usage/Verb Tense.*** The problem with the original is that “begun” is the past participle of “to begin”; “began” is the past tense. (F) is wrong because the underlined original mistakenly uses the past participle rather than the past. (G) makes a mistake that is the mirror image of that in the original. Since “begun” is the past participle of “to begin,” a sentence using “who’d,” which is a contraction of “who had,” would need the past participle: who had begun. Additionally, (G) introduces a new error. Although both “that” and “who” are relative pronouns and could do the grammatical job required here, “who” is reserved for references to people. A reference to pharmaceutical companies would have to use “that.” (H) fails to correct the error of the original. Plus, (H) introduces a new error by using “who” to refer to “companies.” “Who” is reserved for references to people. (J) is the correct answer because it uses the correct principle part of the verb, the past tense “began.”
23. **(C) *English/Usage and Mechanics/Grammar and Usage/Pronoun Usage.*** The original includes an error of pronoun-antecedent agreement. “Its” refers to “companies,” but “its” is singular while “companies” is plural. (A) is wrong because the original includes a pronoun that does not agree with its antecedent. (B) fails to correct the error of pronoun-antecedent agreement and even compounds the error. The resulting sentence would still have a singular subject pronoun referring to the plural “companies” and the singular possessive pronoun “its” referring to the same plural antecedent. (C) solves the pronoun problem of the original. “They” is plural and agrees in number with the plural “companies.” (C) also has the advantage of using the active voice rather than the passive voice found in the original. In general, the active voice is preferred to the passive voice because the active voice is more direct. (D) fails to correct the failure of pronoun-antecedent agreement found in the original: companies...its.
24. **(F) *English/Rhetorical Skills/Strategy/Effective Concluding Sentence and Effective Transitional Sentence.*** This item does not presuppose that there is an error in any of the choices. Instead, the task is to find the one that *best* concludes Paragraph 2 and leads into Paragraph 3. (F) is the best sentence for the job described. First, it provides a nice conclusion for Paragraph 2. Paragraph 2, as initially presented, introduces the general idea that the new drug could be obtained from tree bark, and (F) is a logical extension of that thought: specifically, in the Pacific Northwest. And the introduction of the Pacific Northwest leads naturally into the discussion in the following paragraph. (G) is perhaps the second best answer, but only second best. (G) doesn’t provide the connection to the “Pacific Northwest” that is the subject of the following paragraph. Plus, (G) really doesn’t do as good a job as (F) does at providing a conclusion. (H) is definitely a poor choice because it is not connected to Paragraph 2 and does not tie in to Paragraph 3. You might want to play around with (H) to see whether it could be improved, the way (G) can, to make it a plausible transition sentence, but the final result will probably not be very compelling. (J) is perhaps the least likely candidate of all the choices for a transition sentence. It is not connected to the discussion in Paragraph 2 and doesn’t lead into Paragraph 3.
25. **(A) *English/Usage and Mechanics/No Change.*** The correct answer to this item is “NO CHANGE,” which means that it is not possible to classify it according to an error in the original. And each of the three wrong choices

introduces an error of a different sort. So, we really have three different concepts tested here. (A) is the correct answer because the original is correct. “To produce” is an infinitive used as an adverb to answer the question “How much?” And the wording of the underlined original is direct and clear. (B) introduces an error of improper modification. “Enough” turns the introductory phrase into an adjective, and the phrase would modify the first important noun that follows: chemists. So, the resulting sentence would seem to say to the reader that the “chemists are enough taxol production,” obviously nonsense. (C) turns the introductory phrase into a participial phrase that seems to modify “chemists.” But the resulting sentence implies that the chemists were already in the process of producing the required amount rather than still searching for a way to provide it. (D) would introduce a comma splice. The result would be two independent clauses, each with its own subject and verb joined together with a comma but no conjunction.

26. **(G) English/Usage and Mechanics/Grammar and Usage/Diction.** The item stem here includes the thought-reverser “NOT.” Students must be reminded that a thought-reverser “inverts” the inquiry: what would ordinarily be the right answer is wrong, and what would ordinarily be a wrong answer is right. “Around,” “approximately,” and “about” would all be acceptable adverbs to modify the numerical adjective “40,000.” The important difference in the choices is the preposition. (F) is acceptable: they need the bark of the trees. (G) is not acceptable: they need the bark for the trees. (H) is acceptable: they need the bark of the trees. (J) is acceptable: they need the bark from the trees.
27. **(C) English/Rhetorical Skills/Strategy/Effective Transitional Sentence.** In order to answer this item correctly, it is necessary to understand the content of the paragraph and passage. So, this item, like so many others in this category, functions a lot like a reading comprehension item. Here the writer says that the yews are scarce (slow-growing and scattered), so scientists began to produce taxol synthetically. The item asks for the best choice to make that transition. (A) is not a good transition because the underlined original merely repeats what is already available in the dependent clauses beginning with “since”: the tree is slow growing and sparsely distributed. It is not necessary to draw the conclusion that the tree is scattered throughout the area. (B) is not a good transition because this choice offers irrelevant detail. Additionally, the writer has already said that the tree is scattered throughout the area. (C) provides the needed transition by explaining that the growing characteristics prompted concern that the tree population would be decimated. So, what could be done? Scientists found an alternative source for the substance; they produced it synthetically. (D) is not a good transition because this choice offers irrelevant detail. The issue was the availability of the bark to provide taxol. Any other uses the tree might have were irrelevant to that concern.
28. **(H) English/Usage and Mechanics/Punctuation/Apostrophes.** This item presents two issues. First, there is the obvious issue of how to form the possessive using the apostrophe. Second, there is a more subtle problem with establishing agreement in the number of the noun for “patient” with the previous occurrence of the word in the paragraph. (F) is incorrect because the singular “the patient’s” does not agree with the plural “all patients” found in the first sentence. The concern is to meet the needs of everyone in the group, the patients, not the need of one individual, the patient. (G) is wrong because the apostrophe following “needs” creates a possessive with nothing to modify. (H) creates the agreement that is needed between “all patients” in the first sentence of the paragraph and “the patients’ needs” in this sentence. Additionally, (H) correctly forms the plural possessive by adding the apostrophe to the plural form of the noun. (J) is wrong because a possessive is needed to show that “patients” modifies needs.
29. **(D) English/Usage and Mechanics/Sentence Structure/Comma Splices.** The problem with the original is that the sentence contains a comma splice, that is, two independent clauses spliced together by a comma but no conjunction. One way of eliminating the error would be to insert a coordinate conjunction at the splice:

...more costly than harvesting the bark, but growing the foliage in a nursery provides a renewable resource.

Of course, this is not one of the answer choices, but it does illustrate the nature of the error and how it might be corrected. (A) is wrong because the sentence as originally presented does contain an error. (B) fails to correct the comma splice in the original and even introduces a new problem of ambiguity because it is not

entirely clear what “this,” as opposed to “this process,” is supposed to refer to. (C) does correct the comma splice, but the resulting sentence is logically defective. The “as” implies a causal connection or explanation:

As we were late for the show, we skipped dinner.

But the resulting sentence in this case doesn’t offer an explanation:

As this process is costly, growing the foliage is a renewable resource.

(D) eliminates the comma splice without introducing a new error. (D) uses the subordinating conjunction “although” to join the first clause to the second. In the resulting sentence, the second clause is now the independent clause while the first is a dependent clause, thus making a coherent whole sentence. And the “although” provides the appropriate contrast between the disadvantage of cost and the advantage of renewability.

30. **(J) English/Usage and Mechanics/Grammar and Usage/Diction.** The words “whether” and “if” are frequently confused. “If” is used to express contingency, while “whether” expresses an “either/or” condition. (F) is wrong because the original includes the wrong substitution of “whether” for “if.” (G) is wrong because “that” would turn the entire sentence into a noun clause. A noun clause is a dependent clause, but the noun clause would have no logical role to play in the sentence. (H) creates a participial phrase in place of a dependent clause, but there is nothing for the phrase to modify. So, the phrase introduced by “seeing” would have no logical connection to the independent clause. (J) solves the problem of the original by inserting the idiomatically correct subordinate conjunction, “if.”
31. **(C) English/Usage and Mechanics/Grammar and Usage/Diction.** The preposition underlined in the original sentence is not idiomatic. The correct idiom is “wager on.” (A) is incorrect. The correct idiom for the context is “wager on” not “wager for,” a phrase that would mean to make a bet on someone else’s behalf and not to make a bet on the outcome of an event. (B) is incorrect. The correct idiom is “wager on” not “wager of.” (C) is correct. The correct idiom to express the idea that the two men placed bets on the outcome of an event is “wager on.” (D) is incorrect because the correct idiom for this context is “wager on.” “Wager at” suggests the physical location where the wager might be made, not the act of betting on the outcome of an event.
32. **(J) English/Rhetorical Skills/Strategy/Effective Concluding Sentence.** This item asks for the most appropriate conjunctive adverb to express the connection between the first sentence and the second. There is both a temporal (time) element to the connection and a logical one. The time element establishes that the election came first with the effect of the wager following. And the logical connection explains that the outcome of the election set the stage for the effect of the wager. (F) is incorrect because “nevertheless” sets up a contrast between the two ideas when what is required is a temporal/logical connection of setting and outcome. (G) is wrong because “moreover” implies simultaneity and independence, as though the two events occurred with no connection even though both may have contributed to the same result. (H) does have the merit of suggesting a causal connection, but “consequently” is like “therefore.” And in this case, the first idea does not cause the second. (J) provides the needed connection. “Eventually” makes the order of events clear (the wager preceded the benefit) and implies that the connection was somewhat attenuated, that is, it was drawn out over time, as the rest of the passage explains.
33. **(B) English/Rhetorical Skills/Style/Idiomatic Expression.** This item includes a “thought-reverser,” so three of the four choices are acceptable. One is not. The exception, in this case, is the right answer. (A) is incorrect because the original sentence is acceptable. “To benefit” means to confer on someone something valuable or useful; and in this case, the wager conferred on the veterans valuable assistance. (B) is the correct answer because “enhance” is not appropriate to the context. “To enhance” means to increase, but the effect of the wager was not to “increase the soldiers.” Things would have been different had (B) offered: enhance assistance to the soldiers. But then that would have been an entirely different question. (C) is wrong because

“serve,” since “serve” can mean “to benefit,” does fit into this context. (D) is wrong because “help” is a fairly obvious synonym for “benefit” and fits the meaning intended by the writer.

34. **(H) *English/Usage and Mechanics/Punctuation/Apostrophes.*** This item tests the use of the apostrophe to form the possessive of a noun. (F) is incorrect because “bets” is just the plural of “bet.” As written, the sentence seems to use “bet” to modify “terms,” but since “bet” is a noun and not an adjective, the original is not acceptable. The problem can be corrected by using the possessive form of “bet.” (H) makes the needed correction. “Bet’s” is the possessive form of “bet,” and the resulting phrase “bet’s terms” expresses the idea that the terms are those set forth in the bet. The error could also be corrected by using the prepositional phrase “of the bet” (an alternative way of showing possession): the terms of the bet. This construction, however, is not available as an answer choice. (G) doesn’t solve the problem of the original sentence and introduces yet another error by using the possessive of “terms.” “Terms” doesn’t have anything to indicate possession of. (J) is wrong because “bets” is plural, but there was only a single wager.
35. **(A) *English/Usage and Mechanics/No Change.*** The original is correct. It uses commas to set off the parenthetical remark that the bet’s loser would be escorted by a marching band. Some teachers might call the remark an “aside” in order to indicate that it is outside of the main logical flow of the sentence: the loser must carry the sack. By the way, the loser will be accompanied by a band. (B) is incorrect because the lack of commas makes it seem as though the phrase “escorted by a marching band” is supposed to be an essential part of the logic of the sentence. But that implies that the person marching is identified by the association with the band: “the loser with the band” versus “the loser without a band.” Or, to take another example, the same distinction is presented in the following pair of sentences:

The band leader wearing a top hat led the parade.

The band leader, wearing a top hat, led the parade.

The first sentence implies that there are several band leaders, one of whom is wearing a top hat, and that it is the one wearing the top hat (and not those without top hats) who led the parade. The commas in the second sentence imply that the wearing of the top hat is not essential to the identity of band leader but merely an aside. So, the second sentence says that the band leader, who just happened to be wearing a top hat, led the parade. (C) and (D) are wrong because regardless of whether the phrase is intended to be essential or non-essential, the correct punctuation pattern will either be two commas (one at the beginning and one at the end) or no commas at all. In this case, there are two commas.

36. **(J) *English/Usage and Mechanics/Sentence Structure/Fragments.*** The original word group is a sentence fragment because the group lacks a main verb. The “while” reduces the entire structure to a dependent clause. (F) is wrong because the original is a fragment and not a complete sentence. (G) is wrong because the result is still a fragment. Like “while,” “since” is a subordinating conjunction. So, the result will be a dependent clause without an independent clause to rely on. (H) is wrong because the result is still a fragment. Like “while,” “when” is a subordinating conjunction. So, the result will be a dependent clause with no independent clause to connect to. (J) solves the problem of the original. Eliminating the “while” allows the wording group to be an independent clause with its own main verb:

Voters elected the candidate....

37. **(D) *English/Rhetorical Skills/Style/Conciseness.*** The underlined portion is needlessly repetitious of the statements earlier in the sentence that voters elected that candidate. The material should be deleted. (A) is wrong because the original is needlessly repetitious. (B) is incorrect because it fails to eliminate the repetition and even makes matters worse by making the underlined part awkward as well as wordy. (C) is wrong because it doesn’t delete the redundant material and even makes the wording awkward. (D) is the correct answer because it cuts right to the chase and eliminates the unnecessary verbiage.

38. **(G) English/Usage and Mechanics/Punctuation/Semicolons and Commas.** The comma and the semicolon are related in that the semicolon is usually regarded as a “strong comma.” And there are some contexts in which it is permissible to use either. However, in most cases, the rules for the comma and the semicolon are different. In this case, the use of the semicolon is incorrect. It is permissible to use semicolons to separate elements in a sequence when the elements are major grammatical units like clauses. But here the series consists of verbs: decorated the sack, shouldered it, and led the band. Commas are required. (F) is incorrect because, as noted above, this is not an appropriate context for the semicolon. (G) is correct because the rules of punctuation require the comma here. (H) is wrong because the rules of punctuation require a comma to separate the first and second elements of the series as well as the second and third elements. (J) is incorrect because the rules do not permit the mixing of commas and semicolons.
39. **(B) English/Rhetorical Skills/Style/Conciseness.** The original suffers from a fairly obvious unnecessary repetition of synonymous words. “Equivalent” and “similar to” are pretty much “equivalent” or “similar to” each other—if we may be permitted a small joke. (A) is wrong because the original is needlessly repetitious. (B) corrects the problem of the needless repetition by eliminating one of the two equivalent expressions. (C) is wrong because the two similar terms remain in the resulting sentence. (D) is incorrect because “self-same” has virtually the same meaning as “equivalent to” in this context.
40. **(F) English/Usage and Mechanics/Sentence Structure/Comma Splices.** An important element of this item is the thought-reverser. The correct answer choice is the one that is not an acceptable way of writing the sentence. Indeed, even the original is technically correct, though somewhat abrupt and not quite as good as (G), (H), or (J). (F) is incorrect because joining the clauses with a comma and no conjunction results in a comma splice. The injunction against the comma splice is not just an arbitrary rule. The problem with the comma splice is that it is easily misinterpreted by a reader. It is not clear whether the comma signals the start of a series, the beginning of an aside, the second clause in a series of short clauses, or something else altogether. (G) is wrong because joining the two clauses with a “because” to show the relationship between them would result in an acceptable sentence. (H) is incorrect because a “since” with a comma would create a complex sentence with a dependent clause set off by the comma, an acceptable result. (J) is wrong because the semicolon can be used to join two independent clauses with no conjunction needed when the two clauses are closely related, as in this case.
41. **(D) English/Usage and Mechanics/Grammar and Usage/Verb Tense.** The problem with the original is that the use of the present tense “donates” is inconsistent with the other verbs in the paragraph, which are in the past tense. (A) is wrong because the original uses the present tense. The other verbs in the paragraph are in the past tense. It is important to maintain logical consistency in the choice of verb tenses. (B) is wrong because the use of “could” (the subjunctive) suggests that donating the sack back was optional when the context makes it clear that it was expected or even required. Additionally, “could of” is not an acceptable construction. It is a corruption of the perfect tense “could have.” Over the years, the “have” has become mistaken to be heard as “of.” But in writing, “could of” is not acceptable. (C) is wrong both because the use of a present tense is inconsistent with the tense of the other verbs in the paragraph and because the “can” implies an element of contingency that is not intended by the writer. (D) is the correct choice. The use of the past tense “donated” conforms the sentence to the time frame of the rest of the paragraph.
42. **(G) English/Usage and Mechanics/Sentence Structure/Fragments.** The original is incorrect because the word group is a fragment. (F) is wrong because the original word grouping is a fragment and not a sentence. The word grouping as it is written lacks a main verb, because the one verb in the word grouping, “started,” seems to belong to a relative clause introduced by the relative pronoun “that.” (G) is correct because deleting “that” allows the rest of the grouping to be an independent clause with its own main verb, “started.” Also, the use of the comma to mark the end of the introductory phrase “each time” is correct. (H) is wrong because “started” still remains trapped inside of a relative clause. It can’t function as the main verb of a sentence. (J) is incorrect because “when” creates an adverbial, dependent clause, and so, like the original, (J) results in a fragment.

43. **(D) English/Rhetorical Skills/Style/Clarity of Meaning.** The problem with (A), the original, is that it is awkward. It is not clear exactly what the writer means to say, whether Gridley is inspired and motivated by something, whether he was inspiring and motivating to others, or whether he inspired and motivated himself. (B) is incorrect and does not eliminate the ambiguity in the wording of the original. Additionally, the use of the pronoun “himself” is incorrect. (C) is incorrect, even though it does seem to be clear. (C) implies that Gridley traveled by inspiring and motivating others, but that makes no sense. (D) is the correct response. The use of the past participles “inspired” and “motivated” makes it clear that those words are adjectives intended to modify “Gridley.”
44. **(F) English/Usage and Mechanics/No Change.** The original is correct. The pronoun “its” agrees in number with the antecedent “Virginia City” and has the proper possessive form to modify “residents. (G) is wrong because the pronoun in question is not intended to refer to “Gridley” but to “Virginia City.” (H) is incorrect because “their” is plural while “Virginia City” is singular. (J) is wrong because “there” is not a pronoun at all, though sometimes “there” is confused with “their” because of the similarity in pronunciation.
45. **(A) English/Rhetorical Skills/No Change.** The original is correct as written. The phrase “within twelve months” connects the sentence to what has gone before by allowing the total collected to summarize all of Gridley’s activity. (B) is wrong because “likewise” implies the wrong sort of connection. “Likewise” implies similarity, but the total is not similar to any one contribution but the sum of all the contributions. So, the summary in the last sentence in the paragraph stands on a different logical footing: this city + that city + another city = total collected. (C) is wrong because the “because” implies that the total collected explains why the eastern cities contributed \$170,000. But the total does not explain the “why” of any particular contribution. (D) is incorrect because the “while” implies that there are two different time frames, but there is only the one time frame. Gridley crossed the country visiting city after city in succession.
46. **(F) English/Usage and Mechanics/No Change.** The original is correct. The preposition “between” correctly expresses the idea of the distance separating Vietnam and California. (G) is incorrect because “among” is reserved for making a comparison of three or more elements. Contrast the following sentences:
- The distance between the two towns is 40 miles.
- The distances among the three towns vary from 40 miles to 50 miles.
- (H) is wrong because the use of “from” would require a “to” to complete the idiom: the distance from Vietnam to California. (J) is wrong because “to” implies that the writer is comparing the distance from a third point, which is not identified, to Vietnam and California.
47. **(C) English/Usage and Mechanics/Grammar and Usage/Diction and Punctuation/Apostrophes.** Although this item has elements of apostrophe use, it primarily revolves around the common confusion of “its” and “it’s.” Of course, “its” is the third person singular possessive pronoun while “it’s” is the contraction of “it is.” (A) is incorrect because the original uses the contraction form of “it is.” But what is needed is the third person singular possessive pronoun. (B) is wrong because “its’,” despite the appearance, is simply not a word. There is no word in the English language that is correctly spelled “its” with an apostrophe. (C) is correct because it substitutes the proper pronoun for the contraction. (D) is wrong because “his” is a masculine pronoun but “distance” is a neuter noun. In English, most nouns do not exhibit gender and so are regarded as neuter. The obvious exceptions to this rule include people of an identified gender, animals with gender, and some objects such as ships (“she”).
48. **(J) English/Rhetorical Skills/Style/Clarity of Meaning.** The problem with the original is that the “although” sets up an illogical contrast. Tran and Maya left the restaurant behind when they immigrated to the United States. So, they didn’t leave it behind “although” they immigrated; they left it behind because they immigrated. (F) is wrong because “although” has a meaning that is not appropriate in this context given the content of the passage. (G) is incorrect because “concerning” is not logically connected to any other part of the sentence. (H)

is wrong because Tran and Maya did not leave behind the restaurant “after” they immigrated. They left the restaurant at the very moment that they immigrated or moved. (J) solves the problem of the original. “As immigrants” has the meaning “because they immigrated,” which explains why Tran and Maya left behind their restaurant in Da Nang.

49. **(A) English/Rhetorical Skills/No Change.** (A) is correct. The original uses a conjunctive adverb that creates an appropriate contrast between both time and circumstance. The conjunctive adverb “now” creates a contrast between both the time in Da Nang and the present and between the ownership of a restaurant in Vietnam and the desire to own one in Los Angeles. The Nguyens want the present to be different from the past, and they want to have a restaurant that they do not have to leave behind. (B) is incorrect because the sentence sets forth a new idea not a conclusion. (C) is wrong because there is no “like” situation for a valid “likewise” comparison. This is a little tricky. The passage states that the Nguyen’s left behind a family restaurant in Da Nang. They don’t want to do “likewise” again. They want to keep a restaurant, but in Los Angeles. (D) is wrong because there is no circumstance to be preferred in place of. “Instead” means “in stead” or “in place of.” But there is nothing that a restaurant in Los Angeles will replace. The restaurant in Da Nang was already finished.
50. **(G) English/Usage and Mechanics/Punctuation/Commas.** The original includes two gratuitous commas that serve no logical function and should be eliminated. (F) is wrong because the original includes unnecessary commas that disrupt the logical flow of the sentence. There is no reason to set aside the phrase “with both” since the “impressed with” is a single idea and “both” modifies the two objects of the preposition “with.” (G) is correct. Neither of the commas is needed. The correct solution is to eliminate both. (H) is wrong because it eliminates only one of the two unnecessary commas. The modifier “both” is still separated from what it modifies by a comma. (J) is wrong because the remaining comma separates the verb with its preposition from the object of the preposition, thus disrupting the logic of the sentence.
51. **(B) English/Rhetorical Skills/Strategy/Appropriate Supporting Material.** There is no error to be corrected here. Instead, the question asks why the phrase “to rent a suitable building” is a part of the sentence. (A) is incorrect because there are no details about the cost of any specific building, only a generalization that rents are expensive. (B) is correct. Without the phrase, the sentence would read:
- [H]e was...shocked to learn how much it costs.
- So, there would be no information about what it is that costs a lot. (C) is wrong because the writer does not say that the décor and rent are in anyway connected. (D) is wrong because cutting the phrase will leave out any reference to rent.
52. **(J) English/Usage and Mechanics/Grammar and Usage/Pronoun Usage.** The original contains an error of pronoun usage. “Himself” is a reflexive pronoun and cannot be used as the subject of a verb. (F) is incorrect since the original uses “himself” as the subject of a verb. (G) is wrong since a reflexive pronoun cannot be used as the subject of a sentence. (H) is wrong because “him” is the objective case and cannot be used as the subject of a verb. (J) is the right answer. “He” is a nominative (subjective) case pronoun and can be used as the subject of the verb “would have to apply.”
53. **(C) English/Rhetorical Skills/Style/Conciseness.** The original sounds impressive with words like “energies” and “activity,” but really it is just needlessly wordy and should be trimmed up. (A) is wrong because the original is needlessly wordy, and the thought could be rendered more clearly and concisely. (B) is not correct and has pretty much the same weaknesses as the original. “Employ,” “vigorously,” and “task at hand” sound impressive, but they are really just long-winded. (C) is correct. Notice that (C) is sweet, short, and to the point: they would have to work a long time. (D) is nice and short but introduces a new error. The “it” is a pronoun without an antecedent.

54. **(G) English/Usage and Mechanics/Sentence Structure/Problems of Coordination and Subordination.** This item does not involve an error. In fact, the original sentence is correct. But one of the four answer choices is not an acceptable alternative. (F) is an acceptable alternative. It uses the subordinating conjunction and a comma to join the two clauses, and the “while” creates a contrast between the job held by Tran and that held by Maya. (G) is the right answer. The subordinating conjunction “where” implies that the hospital where Tran worked was also the place where Maya worked. But Maya worked in a factory, not a hospital. (H) is acceptable. The two clauses are very closely related, so a writer could choose to join them with a semicolon—no conjunction needed. (J) is also acceptable. A writer could decide to use two short sentences.
55. **(A) English/Rhetorical Skills/No Change.** The original is correct. The conjunctive adverb “nevertheless” means “however” or “in spite of that.” So, “nevertheless” sets up the contrast between the effort made by the Nguyens and the work they still had to do to get the money they needed. (B) is wrong because “furthermore” is used to mean “and.” But the second sentence is meant to contrast with the preceding sentence, not to reinforce the same idea. (C) is wrong because “eventually” is used to mean “a long time later.” But the sense of the paragraph is clearly that even as they worked, the Nguyens were a long way from their goal—right then. (D) is wrong because “besides” means “together with,” implying that the second sentence should lead the reader to the same conclusion as the first. But the writer here intends to contrast the hard work with the unfinished task.
56. **(H) English/Rhetorical Skills/Strategy/Appropriate Supporting Material.** The item stem asks for a specific example of the efforts that the Nguyens made to earn money and save it. (F) is incorrect because the original is not an example of the type requested by the item. (G) is wrong because the success of the children doesn’t illustrate the plan the Nguyens were following to meet their goal. (H) is the example we are looking for. By using buses, they saved the expense of buying a car and were able to put that money toward their goal. (J) is wrong and really only restates the original: they had jobs.
57. **(D) English/Rhetorical Skills/Strategy/Effective Transitional Sentence.** This item asks for a transitional sentence to connect this paragraph to the preceding one. (A) is wrong because the original sentence does a very poor job of leading the reader from the preceding paragraph into this one. Simply repeating the fact that Tran was working hard doesn’t tell the reader how the new paragraph is going to develop the story. (B) takes a stab at providing a transition with the conjunctive adverb “meanwhile,” so at least it attempts to respond to the question; but (B) fails. The problem with (B) is that this paragraph doesn’t justify the conclusion that the goal seemed to be unreachable. This paragraph develops the story by describing the next significant accomplishment. (C) is wrong because, like the original, this sentence doesn’t provide a transition or connection between the two paragraphs. After reading this sentence, a reader would expect to see more text about the drudgery of the jobs. (D) is the right answer. The “then” is a conjunctive adverb that announces that something new has happened, and “inspiration” tells the reader that the event should have a positive outcome. And the paragraph does, in fact, recount how Tran’s inspiration helped the family transition into the food business in Los Angeles.
58. **(J) English/Rhetorical Skills/Style/Clarity of Meaning.** The problem with the original is that the arrangement of the elements in the underlined part does not convey the meaning intended by the author. (F) is wrong because the underlined original does not say clearly what the writer intends to say. Since “it” can only refer to “dream,” the underlined part seems to say “their dream would lead to their dream.” (G) is wrong because the resulting sentence doesn’t make clear the writer’s meaning. “They” must refer to “Tran and Maya” and “that” to something like “the dream.” But then (G) says, “Tran and Maya would lead to the dream.” (H) is wrong because the new sentence would not state clearly the writer’s point. The “that” and the “it” could only refer to “dream,” so the new sentence would say “but perhaps would lead the dream to the dream.” (J) is correct and states the writer’s point clearly. The “it” refers to “dream,” so the new sentence would read “This undertaking wasn’t their dream but perhaps would lead to it.”
59. **(A) English/Usage and Mechanics/No Change.** This item suggests that the two clauses be joined, and there are actually several good ways of achieving that end. One simple approach would be to join the clauses with a

conjunction and use a comma to mark their separation: the neighborhood was friendly, with lots of foot traffic, and she envisioned their restaurant fitting in nicely here. This, however, is not an option. (A) is correct because the original is also acceptable. The writer might simply leave the two clauses as separate sentences. There is no stylistic or grammatical requirement that they be conjoined. (B) is wrong because the resulting sentence would be awkward and unclear: ...with lots of foot traffic, that she envisioned their restaurant fitting in nicely here. Above, when the relative clause was suggested as a way of connecting the two sentences, it was necessary to change the order of the sentence elements to make the resulting sentence clear. (B) does not do this. (C) is wrong because joining the two clauses without a conjunction and marking the seam with a comma results in what is called a comma splice. (D) is incorrect because joining the two clauses without a conjunction or even a comma to mark the seam is the mistake known as the fused sentence.

60. **(H) *English/Usage and Mechanics/Sentence Structure/Comma Splices.*** This item asks for the student to choose an option that is not correct. (F) is not the right answer because it is permissible to create two separate sentences here. The period would mark the end of the first sentence, and the capitalized word would mark the beginning of the second. The effect would be very much like that of the original in item #59, above. (G) is incorrect because this version illustrates the proper use of the colon. One use of the colon is to introduce further elaboration of an idea, and here the colon introduces the fuller explanation for Maya’s disappointment. (H) is the right answer because the resulting sentence would be a comma splice, that is, two independent clauses joined without a conjunction and the seam marked only by a comma. (J) is not correct because this version illustrates a correct use of the semicolon. Although two independent clauses cannot be joined by a comma with no conjunction, it is possible to join them using a semicolon with no conjunction, as shown here.

61. **(D) *English/Usage and Mechanics/Punctuation/Commas.*** The underlined part of this item includes two unnecessary commas. (A) is wrong because the two commas are unnecessary. Their effect is to create an aside from the prepositional phrase that is actually an integral part of the logical structure of the sentence. In order to illustrate this point, you might consider the sentence without the phrase:

“...to hear a performance...Jackie McLean.”

(B) is incorrect. It might seem on first reading that a comma is needed here to signal the start of an appositive:

“...a performance by Jackie McLean, a renowned saxophonist.”

But in the phrase “saxophonist Jackie McLean,” “Jackie McLean” is not an appositive used to define “saxophonist” but the person described by the phrase, like “the artist Pablo Picasso” or “the inventor Thomas Edison.” (C) is wrong because the unnecessary comma simply separates the prepositional phrase from the word that it modifies. (D) eliminates both unnecessary commas and is therefore the correct answer.

62. **(H) *English/Rhetorical Skills/Strategy/Appropriate Supporting Material.*** The sentence contains detail that helps the reader to appreciate the setting of the musical performance. While the details are not required as a matter of grammar or style, they do advance the writer’s goals of describing the setting and the performance. (F) is wrong because the sentence contributes to the development of the topic of the essay. (F) is wrong to say that the sentence would detract from the “essay’s focus on music” because the essay is really about the experience of attending the performance. Perhaps if the essay were a scholarly work on the structure of jazz with an analysis of the pieces played by McLean, then the additional information would be distracting. But that would be a different test. (G) is wrong because the sentence should remain in the essay. Further, (G) is wrong to say that the detail will mislead the reader. There is no reason for the reader to infer from the one reference to the location of the performance that the essay is about nightclubs. (H) is correct. The reference to a crowded, underground club helps the reader to understand the writer’s experience. (J) reaches the right conclusion (the sentence should stay in the essay) but for the wrong reason. The fact that the room was crowded doesn’t necessarily mean that the patrons were uncomfortable and certainly not that the conditions made it impossible for the writer to enjoy the music.

63. **(B) English/Usage and Mechanics/Sentence Structure/Fragments.** The original is only a fragment of a sentence; it doesn't have a verb. (A) is incorrect since the underlined original lacks a verb. Perhaps the writer meant to say "hang on the walls." That would make the original a complete sentence, but the writer did not include the verb. (B) is correct because it supplies a verb to turn the fragment into a complete sentence: the pictures line the walls. (C) is wrong because the substitution of one preposition for the other doesn't address the problem of the lack of a verb. (D) is wrong because the use of the participle "hanging" doesn't provide a main verb. The resulting participle phrase would be a fragment as well.
64. **(G) English/Rhetorical Skills/Strategy/Appropriate Supporting Material.** The item stem asks which of the various options would provide new information about the "mixture of sounds." (F) is incorrect since describing a musician as "talented" says nothing about the specific contribution of that musician to the performance. (G) is correct because identifying Higgins as a "drummer" provides a detail that lets the reader know that drums are an element of the music. (H) is wrong since describing Higgins merely as a "musician" provides no new information about the specific contribution Higgins makes to the mix of sounds. (J) is wrong since "jazz artist" says nothing about the specific instrument that Higgins plays with the group.
65. **(C) English/Usage and Mechanics/Grammar and Usage/Diction.** This item tests correct choice of prepositions, but the item is fairly difficult because of the level of complexity of the passage. (A) is wrong because the preposition "with" is not idiomatic in this context. "Focus with" does not mean to pay attention to. (B) is wrong because the preposition "with" is not idiomatic. "Focus with" does not mean to pay attention to. Additionally, the use of "first" rather than "initially" is not a difference that makes a difference. (C) is correct because "focus on" means to pay attention to. (D) is wrong because "focus to" does not mean to pay attention to.
66. **(G) English/Usage and Mechanics/Sentence Structure/Run-On Sentences.** The problem with the original is that two sentences have been fused together without a conjunction or punctuation. The break should be between "sax" and "I." (F) is incorrect because the original sentence is a fused sentence combining two independent clauses with no punctuation or conjunction. (G) is correct because the two elements of the fused sentence are separated. The period marks the end of the first independent clause, now a sentence by itself, and the "I" is the beginning of the second. (H) is wrong because "that" seems to be a relative pronoun introducing a subordinate clause. But what does "that" refer to? (J) is wrong because "which" is a relative pronoun, but "which" has nothing to refer to. The only candidates for its antecedent are "McLean," "onstage" and "sax." But none of them makes a sensible statement when substituted for the pronoun "which":

...with his sax, McLean I wasn't prepared for...

...with his sax, onstage I wasn't prepared for...

...with his sax, his sax I wasn't prepared for...

67. **(A) English/Rhetorical Skills/No Change.** The original is correct because it states the point directly and is not unnecessarily wordy. (B) is wrong because it introduces needless repetition: "unexpected" is by definition "not prepared." (C) is wrong because it introduces unnecessary wordiness and repetition. The idea of "what happened" is already built into the word "impact." (D) is wrong because "which I didn't see coming" is needlessly repetitive of "I wasn't prepared."
68. **(J) English/Rhetorical Skills/Strategy/Appropriate Supporting Material.** This is a difficult item because the question asks not about some routine matter such as a stray comma or unnecessary repetition but for phrasing that would accomplish a fairly subtle purpose. (F) is wrong because simply saying that the listeners were amazed doesn't provide the reader with any understanding of what it was about the music that was amazing. Something more specific is needed. (G) is wrong for the same reason that the original is wrong. Simply saying that the music is hard to describe is no description at all. Imagine that someone is trying to describe a beautiful painting and can only say "Words can't describe it." This answer is not much help. (H) is wrong because it

does not provide any information about the music itself. Pursuing the analogy of the painting introduced above, it is like saying “We were really lucky to be in the museum that day.” (J) is the correct answer and, for whatever weaknesses one might find in it, is the only choice that actually responds to the question asked: an image to help give a sense of the sound. Saying that the music seemed to come from all different directions plays off the idea of wild notes from every corner of the room and helps to convey the image of sitting in a room surrounded by musical sound.

69. (A) **English/Usage and Mechanics/No Change.** The original, (A), is correct. The original is direct and clear. The positioning of the phrase “I had grown up listening to on the radio” makes it clear that the phrase modifies “music.” Also, the use of the past perfect verb “had grown up” makes it clear that “growing up” is a completed action belonging entirely to the past. (B) is wrong because the passive voice is generally discouraged. The original is in the active voice and more direct. Also, the use of the passive voice is vague because it does not specify who listened to the music. And a point the writer wants to make is that he or she listened to the music while growing up. (C) is wrong because the positioning of “growing up” next to the “on the radio” makes it seem as though the writer “grew up on the radio.” Of course, no careful reader will be confused by the ambiguity for very long, but good writing requires writers to be as clear as possible. (D) is incorrect because the present tense verb “listen” is inconsistent with the other verbs in the paragraph.
70. (G) **English/Usage and Mechanics/Sentence Structure/Fragments.** The original is wrong because it lacks a main verb. Therefore, the original is a fragment rather than a sentence. (F) is wrong because the original is a fragment. “Taking the lead” uses the participle form of “taking,” and a participle cannot be a main verb. A conjugated form such as “takes” or “took” is required. (G) is correct because “took” solves the problem of the main verb. “Took” is a conjugated form of “to take,” specifically the past tense, and it assumes the role of main verb in this sentence: “One of the others took the lead.” Then, “pulling” is used to modify “took” telling how the other musician acted upon taking the lead. (H) does correct the fragment problem because “took” can be the main verb of the sentence, but then “pulled” also seems to be part of the main verb. This would be acceptable if the sentence offered a compound verb such as: He took the lead and pulled strange patterns.... It would also be acceptable if it created another clause: He took the lead. He pulled.... But those changes are not made. So, (H) winds up as a comma splice. What could have been two sentences are jammed together as two clauses in the same sentence joined only by a comma. (J) is wrong because it fails to correct the fragment problem found in the original. “Taking” is not a conjugated verb.
71. (A) **English/Rhetorical Skills/No Change.** The original, (A), is correct and is the only choice to respond directly to the question that is asked. The original creates the visual image of the staccato movement of a dancer illuminated by a strobe and suggests that the music achieved the same effect. Additionally, (A) has the pronounced advantage of being the only answer choice that really responds to the question. The question asks for a description in visual terms to help the reader imagine the music. The original is a highly visual description. The other choices really don’t even mention a visual effect. (B) is wrong both because it is not nearly as effective as the original and because it doesn’t answer the question asked. The question asks for a visual image, but (B) provides no strong visual information. (C) is wrong because the choice does not answer the question asked. Although the choice uses the vision-related term “see,” this term is used to describe the understanding of new information, not an actual image. (D) is wrong because, even though this choice uses the vision-related word “visible,” it doesn’t respond to the question asked. The choice does not attempt to create a visual image in the reader’s mind.
72. (J) **English/Usage and Mechanics/Grammar and Usage/Pronoun Usage.** The original is wrong because the sentence shifts from the third person point of view of the narrator that is used elsewhere in the passage to the second person pronoun. (F) is wrong because the shift in point of view introduces an inconsistency in the narrative. The “you” should be a third person pronoun or noun. (G) correctly changes to the third person point of view so that the conflict in the original is eliminated, but the “it” in (G) is a pronoun without a clear and unambiguous antecedent. What does “it” refer to? (H) is wrong because the relative pronoun “that” lacks an antecedent. (J) is correct because it brings the sentence into conformity with the rest of the passage by using the third person “someone.”

73. **(B) English/Rhetorical Skills/Organization/Sentence-Level Structure.** The item asks for the most appropriate place to insert the new sentence and offers four choices. (A) is wrong because the new sentence talks about the “most intense moment” and needs to follow a sentence that sets up that idea. Sentences 2 and 3 already go together naturally: One man laughed; another man concentrated. (B) is correct. Sentence 4 sets up the new sentence because Sentence 4 talks about the intensity with which some audience members listened. The new sentence then describes the intensity from the writer’s point of view. Additionally, the overall development of the paragraph makes this a good place for the new sentence. The paragraph builds, sort of like a drama, paralleling the evening: McLean would pause. Others would play. A man laughed. Another studied intently. There is the moment of climax or intensity. It was nice, and I listened. The last two sentences are even analogous to a denouement. (C) is wrong because the new sentence would disrupt the connection between the calmness of “happy” and “closed my eyes.” (D) is wrong because the new sentence would, in a sense, contradict the feeling of the previous sentence.
74. **(J) English/Rhetorical Skills/Style/Clarity of Meaning.** This item includes the thought-reverser “not,” so students must find the one answer that is not correct. (F) is wrong because it would be acceptable to join the two clauses together with the simple “comma and conjunction” method. (One easy wrong choice eliminated, three to go.) (G) is also wrong because it is acceptable to join two short clauses with a semicolon and no conjunction. (Another easy wrong choice eliminated, two to go.) (H) is also wrong because “then” can be used to signal what happens next, namely, the applause. (The last easy wrong choice eliminated, and only one option remains.) (J) is correct because it is not acceptable. While it would be acceptable to use “as” as a conjunction here (The musicians walked offstage as the room filled with applause), “as if” just doesn’t have the meaning needed.
75. **(C) English/Rhetorical Skills/Strategy/Appropriate Supporting Material.** The item asks whether or not the proposed addition would be effective. (C) is correct. The sentence should not be included. The reference to “family” is gratuitous and not connected to anything in the essay. (A) is wrong because the sentence should not be added for the reasons just mentioned. Additionally, there is no real need for the essay to establish in the first sentence the writer’s enthusiasm for jazz. The first sentence already provides an adequate context for the narrative. (B), too, is wrong because the sentence should not be added. Additionally, the sentence, with its reference to family, would not clarify but only muddle the essay. (D) is wrong because it provides the wrong reason for its conclusion. The sentence should not be included but not for the reason given here.

TEST 2: MATHEMATICS

1. (A) *Mathematics/Arithmetic/Simple Manipulations.* Perform the indicated calculation:

$$\left(\frac{0.12 \text{ inches}}{\cancel{\text{month}}}\right)\left(\frac{12 \cancel{\text{ months}}}{\cancel{\text{ year}}}\right)(20 \cancel{\text{ years}}) = 28.8 \text{ inches.}$$

2. (H) *Mathematics/Geometry/Triangles/Working with Triangles.* The triangles are congruent, so the lengths of corresponding sides and the degree measure of corresponding angles are equal. Since the measure of $\angle C$ is equal to the measure of $\angle F$, $\angle C = 75^\circ$. Given the measure of two of the three angles in ABC , it is possible to find the measure of the third angle: $\angle A + \angle B + \angle C = 180^\circ \Rightarrow 20^\circ + \angle B + 75^\circ = 180^\circ \Rightarrow \angle B + 95^\circ = 180^\circ \Rightarrow \angle B = 85^\circ$.

Alternatively, if unable to deduce the geometric solution, use the strategy of “guesstimation” as a last resort. $\angle B$ seems to be slightly less than a right angle or slightly less than 90° . “Slightly less than 90° ” cannot be 95° or 105° , so eliminate (J) and (K). And 20° is substantially less than 90° , so eliminate (F). Now, take a close look at the figure: “slightly less” in this case means 85° , (H). But even if forced to guess between (G) and (H), there is a 50-50 chance of guessing correctly.

3. (C) *Mathematics/Statistics and Probability/Probability.* The bag contains 50 pieces of candy and $6 + 10 = 16$ of those pieces are either strawberry or lime. So, the probability of picking a strawberry or a lime candy is 16 out of 50, or $\frac{16}{50}$.

4. (J) *Mathematics/Arithmetic/Common Arithmetic Items/Proportions and Direct-Inverse Variation.* The number of calories increases with increasing portion size, so use a direct proportion: $\frac{4 \text{ ounces}}{15 \text{ ounces}} = \frac{60 \text{ calories}}{x \text{ calories}}$.

$$\text{Now, solve for } x: x = \frac{60 \text{ calories} \cdot \cancel{15 \text{ ounces}}}{4 \cancel{\text{ ounces}}} = 15(15) = 225 \text{ calories.}$$

5. (E) *Mathematics/Arithmetic/Common Arithmetic Items/Percents.* Note that the wording of the item stem specifically invites approximation. Perform the indicated operations: $15\% \text{ of } \$29.74 \approx (0.15)(\$30) = \$4.50$.
6. (H) *Mathematics/Arithmetic/Solving Complicated Arithmetic Application Items and Common Arithmetic Items/Proportions and Direct-Inverse Variation.* If each bottle costs \$0.59, then \$12.89 can purchase $\frac{\$12.89}{\$0.59} = 21.8$ bottles. However, 2-liter bottles do not come in fractions, so 21 bottles can be purchased for \$12.89.

Note that (J), 22, is an attractive distractor. Again, the 0.8 has to be disregarded since it is not possible to buy a part of a bottle. But examinees who automatically round off will incorrectly choose 22, (J).

7. (B) *Mathematics/Arithmetic/Simple Manipulations and Algebra/Manipulating Algebraic Expressions/Manipulating Expressions Involving Exponents.* Perform the indicated operations:

$$\text{Nuclear} - \text{Hydro} = (5.677 \cdot 10^{15}) - (2.884 \cdot 10^{15}) = 2.793 \cdot 10^{15}$$

Note that for this item, it would be a mistake to attempt to input all of the zeroes on a calculator. Additionally, while it can't be denied that using the calculator may give a sense of security, the calculator isn't at all necessary. The problem tests the manipulation of exponents, not subtraction: $5.677 - 2.884$ is approximately $5.7 - 2.9 = 2.8$, so (B) is correct.



8. (G) *Mathematics/Algebra/Solving Algebraic Equations or Inequalities with One Variable/Simple Equations.* Substitute -2 for y and solve for x :

$$3x - 12(-2) = 6$$

$$3x + 24 = 6$$

$$3x = -18$$

$$x = -6$$

Note that for this item, the negative sign involved in the solution is a frequent source of error.

9. (D) *Mathematics/Algebra/Expressing and Evaluating Algebraic Functions/Functions as Models and Arithmetic/Common Arithmetic Items/Proportions and Direct-Inverse Variation.* The item stem states that the blood pressure increases linearly with age, so use a direct proportion: $\frac{\text{change}_1}{\text{change}_2} = \frac{\text{years}_1}{\text{years}_2}$. The change over the 40 years is 20 units, so the change over 30 years is $\frac{20}{x} = \frac{40}{30} \Rightarrow x = \frac{20 \cdot 30}{40} = 15$. Therefore, the blood pressure of a 50-year-old should be $120 + 15 = 135$.

Alternatively, solve this item using the process of elimination. The 20-year-old's blood pressure is 120, so (A) cannot be correct. And eliminate (E) because 140 is the blood pressure of a 60-year-old. Then, 130, the midpoint between 120 and 140, should be the blood pressure of a 40-year-old (midway between 120 and 160), so eliminate (C). A little common sense says that since the blood pressure increases with age, the right answer is bigger than (C), so (D) must be the correct choice.

10. (K) *Mathematics/Algebra/Manipulating Algebraic Expressions/Basic Algebraic Manipulations.* Perform the indicated operations using the FOIL (first, outer, inner, last) method:

$$(2x + 3)(3x - 2) = 6x^2 + (-4x) + 9x + (-6) = 6x^2 + 5x - 6$$

Alternatively, assume a value for x and "plug-and-chug." For example, if $x = 1$, then $(2x + 3)(3x - 2) = [2(1) + 3][3(1) - 2] = (2 + 3)(3 - 2) = 5$. Substituting 1 for x in the answer choices yields 5 for the correct choice:

$$(F) 5x + 1 = 5(1) + 1 = 6 \quad \times$$

$$(G) 5x - 1 = 5(1) - 1 = 4 \quad \times$$

$$(H) 6x^2 - 6 = 6(1^2) - 6 = 0 \quad \times$$

$$(J) 6x^2 - 5x - 6 = 6(1^2) - 5(1) - 6 = -5 \quad \times$$

$$(K) 6x^2 + 5x - 6 = 6(1^2) + 5(1) - 6 = 5 \quad \checkmark$$

It is difficult to stress how important this kind of test-taking technique is. Even students who are fairly comfortable with the operation required here can develop item-specific myopia and overlook something. This technique permits students to lower the level of difficulty of this item.

11. (C) *Mathematics/Algebra/Manipulating Algebraic Expressions/Creating Algebraic Expressions.* Translate the information given in the item stem into an algebraic expression. The first six days are charged at s cents per day for a cost of $6s$. And the remaining three days are charged at 20 cents per day for a cost of 60 cents. Therefore, the total cost is $6s + 60$.

Alternatively, assume a value for s and “plug-and-chug.” For example, if $s = 10$ cents, the total fine is $6(10) + 60 = \$1.20$. Substituting 10 for s in the answer choices yields 120 for the correct choice:

- (A) $s + 180 = 10 + 180 = 190$ ✗
- (B) $6s + 20 = 6(10) + 20 = 80$ ✗
- (C) $6s + 60 = 6(10) + 60 = 120$ ✓
- (D) $9s + 20 = 9(10) + 20 = 110$ ✗
- (E) $9s + 60 = 9(10) + 60 = 150$ ✗

12. **(H) Mathematics/Algebra/Expressing and Evaluating Algebraic Functions/Function Notation.** To evaluate the function for $h(1.5)$, substitute 1.5 for x : $h(1.5) = -4(1.5^2) + 20(1.5) + 32 = -4(2.25) + 30 + 32 = -9 + 62 = 53$.

Note that while a calculator may be used to evaluate this item, it is quickest (and less likely to introduce calculator-entry errors) to first convert 1.5 to $\frac{3}{2}$ and then simplify: $-4\left(\frac{3}{2}\right)\left(\frac{3}{2}\right) + 20\left(\frac{3}{2}\right) + 32 = -9 + 10(3) + 32 = 53$.

13. **(D) Mathematics/Geometry/Triangles/Working with Triangles.** Use the formula for the area of a triangle:

$$\text{area}_{\text{triangle}} = \frac{\text{base} \cdot \text{height}}{2} = \frac{6 \cdot 8}{2} = 24.$$

14. **(K) Mathematics/Algebra/Solving Algebraic Equations or Inequalities with One Variable/Simple Equations.** Solve the given equation for x : $3x + 15 = 2x - 12 \Rightarrow x = -27$.

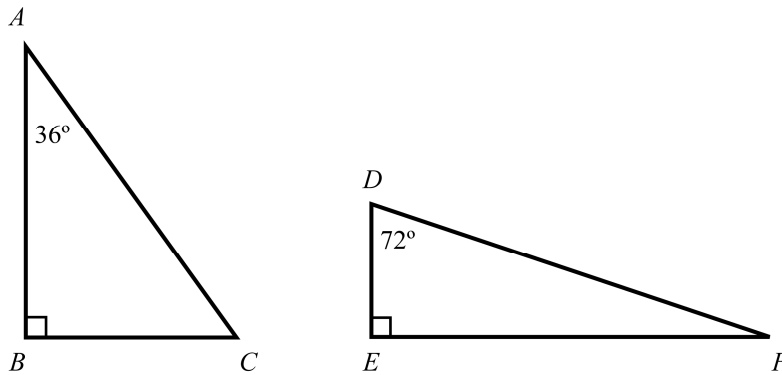
15. **(D) Mathematics/Algebra/Manipulating Algebraic Expressions/Basic Manipulations.** Perform the indicated operations: $\frac{25a}{4} + \frac{3a}{2} = \frac{25a}{4} + \frac{(2)3a}{(2)2} = \frac{25a}{4} + \frac{6a}{4} = \frac{31a}{4} = 7\frac{3}{4}a$.

Alternatively, assume a value for a and “plug-and-chug.” For example, if $a = 1$, then $\frac{25a}{4} + \frac{3a}{2} = \frac{25(1)}{4} + \frac{3(1)}{2} = \frac{25}{4} + \frac{6}{4} = \frac{31}{4} = 7\frac{3}{4}$. Substituting 1 for a in the answer choices yields $7\frac{3}{4}$ for the correct choice:

- (A) $4\frac{2}{3}(1) = 4\frac{2}{3}$ ✗
- (B) $7(1) = 7$ ✗
- (C) $7\frac{1}{3}(1) = 7\frac{1}{3}$ ✗
- (D) $7\frac{3}{4}(1) = 7\frac{3}{4}$ ✓
- (E) $15\frac{1}{2}(1) = 15\frac{1}{2}$ ✗

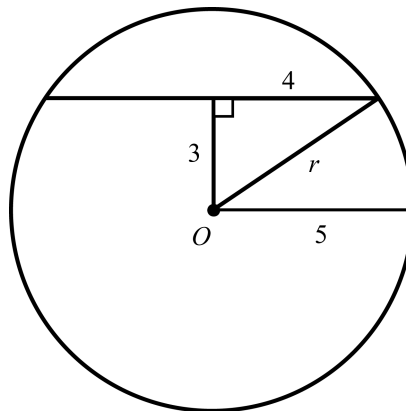
16. **(H) Mathematics/Algebra/Manipulating Algebraic Expressions/Evaluating Expressions.** Create expressions based on the centered information. In the ones column, $7 + y$ produces a 6, but given that each letter represents a single digit, y must be 9. That means that 1 must be added to the tens column so that $1 + w + 2 = 9$ and $w = 6$. Then, $5 + 9 = 14$, so $z = 4$. And $(w)(y)(z) = (6)(9)(4) = 216$.

17. **(E) Mathematics/Geometry/Triangles/Working with Triangles.** Since the measure of $\angle D$ is twice that of $\angle A$, $\angle D = 2(36^\circ) = 72^\circ$. Draw a figure summarizing the given information:



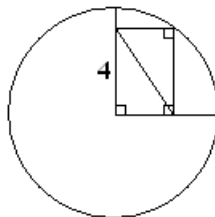
The sum of the angles in a triangle is 180° , so in $\triangle DEF$, $72^\circ + 90^\circ + \angle F = 180^\circ \Rightarrow \angle F = 18^\circ$.

18. (J) *Mathematics/Geometry/Circles* and *Triangles/Working with Triangles*. The trick to solving this item is to recognize that a radius can be drawn to create a right triangle:



Since $r = 5$, the triangle is a 3-4-5 triangle, and the length of the chord is $4 + 4 = 8$.

Note that this is a very odd item to find on the ACT test for two reasons. First, this item seems to be a variation on a standard item used by research psychologists in studying problem solving techniques:



If the area of the rectangle inside the circle is 12, what is the area of the circle? Obviously, the shorter side of the rectangle is 3, and the diagonal is 5. But now the problem-solver has to recognize that the other diagonal of the rectangle is also the radius of the circle, and that's the tricky bit. Once it's determined that $r = 5$, it's a quick step to the conclusion that $\pi r^2 = \pi(5)^2 = 25\pi$.

The second reason this item is a bit strange is that it probably tests much easier, as would be expected given its position in the sequence of items on this test section. There are at least three alternative strategies of last resort if the direct solution escapes students. The first strategy is measuring: the distance of 3 (or, if preferred, 5) can be marked off on the edge of the answer sheet and then compared with the length of the chord to get an approximate measurement of 8. The second strategy is “guesstimation”: compare the length of the chord from the intersection of the line with length 3 to the circle against the radius labeled 5: it appears to be about 4 units, and $2 \cdot 4 = 8$. The third strategy is “meastimation.” The radius is slightly longer than half the chord, so the chord cannot be equal to the diameter—eliminate (K). The chord, however, is longer than the radius, so eliminate (H). Thus, the correct choice must be between 5 and 10, (J).

19. (C) *Mathematics/Algebra/Solving Quadratic Equations.* First, determine the two solutions of the quadratic equation by factoring:

$$x^2 + 3x - 28 = (x + 7)(x - 4) = 0$$

$$x + 7 = 0 \text{ or } x - 4 = 0$$

$$x = -7 \text{ or } x = 4$$

$$\text{And } -7 + 4 = -3.$$

It would also be possible to find the solutions using the quadratic formula, but for most students, the zero product approach is likely to more comfortable.

20. (J) *Mathematics/Algebra/Expressing and Evaluating Algebraic Functions/Functions as Models and Manipulating Algebraic Expressions/Evaluating Expressions.* Evaluate the given algebraic function for $x = 8$:

$$t = 2\pi\sqrt{\frac{x}{32}} = 2\pi\sqrt{\frac{8}{32}} = 2\pi\left(\frac{1}{2}\right) = \pi = \frac{22}{7} \approx 3.14$$

Note that knowledge of the precise value of π isn't necessary, as the choices don't require any greater precision than “between 3 and 4.”

21. (C) *Mathematics/Algebra/Solving Simultaneous Equations.* Use the “substitution” method for solving simultaneous equations: solve one equation for x in terms of y , then substitute that expression for x in either equation and solve for y . Start with the second equation:

$$x + 2y = 30$$

$$x = 30 - 2y$$

$$2(30 - 2y) + y + 3 = 30$$

$$60 - 4y + y + 3 = 30$$

$$-3y = -33$$

$$y = 11$$

Is there an alternative strategy? Yes, but it is so time-consuming as to be counterproductive. It would, theoretically, be possible to substitute each choice into the system of equations to learn which will produce “TRUE” values for both equations for a given value of y :

$$2x + 11 + 3 = 30$$

$$2x = 16$$

$$x = 8$$

$$8 + 2(11) = 30$$

$$30 = 30 \text{ (TRUE)}$$

Additionally, a student who can use this strategy will surely be able to use one of the direct approaches to handling simultaneous equations. So, the short answer is that there are no alternatives here.

22. **(G) Mathematics/Trigonometry/Definitions of the Six Trigonometric Functions.** Many students taking the test will not have had an introduction to trigonometry, and it is surely not feasible to teach them an entire semester's worth of math in the time available for ACT preparation. But this doesn't mean that it is necessary to "write off" all of the Trigonometry problems entirely. The typical ACT has four Trigonometry items, ranging from the simple "what is the definition of" type to more complex items. Most students should be able to learn the mnemonic SOH-CAH-TOA:

$$\text{Sine} = \frac{\text{Opposite}}{\text{Hypotenuse}}$$

$$\text{Cosine} = \frac{\text{Adjacent}}{\text{Hypotenuse}}$$

$$\text{Tangent} = \frac{\text{Opposite}}{\text{Adjacent}}$$

And SOH-CAH-TOA is all that is needed to answer this Trigonometry item:

$$\sin \angle R = \frac{\text{side opposite } \angle R}{\text{hypotenuse}} = \frac{r}{q}$$

23. **(A) Mathematics/Geometry.** The quickest solution to this item is to recognize that since P_2 has a perimeter that is 15 inches longer than P_1 , each side of P_2 is $\frac{15}{5} = 3$ inches longer than each side of P_1 .
24. **(J) Mathematics/Arithmetic/Simple Manipulations.** This item tests understanding of combinations. To find the total number of different combinations that are possible, multiply the total number of settings for each of the dials: $10 \cdot 10 \cdot 26 = 2,600$.

The insight needed to arrive at the conclusion that multiplication is the right tool is, of course, a bit more subtle. Counting problems account for relatively few items on the ACT (as you can see from this test), but they are easily recognized and even more easily solved. Therefore, you might want to take your students through some additional examples:

Jennifer has three hats, two scarves, and five sweaters. In how many different ways can the three different kinds of articles be combined? $3 \cdot 2 \cdot 5 = 30$.

House numbers on the east side of the street have three digits and begin with an even number. How many different house numbers are possible? $5 \cdot 10 \cdot 10 = 500$.

A frugle team consists of a narkip, a slipster, and a twisnat. On the bench a coach has five narkips, two slipsters, and six twisnats. How many different frugle teams can the coach make? $5 \cdot 2 \cdot 6 = 60$.

If students ask whether they can use a calculator for this item, the answer should be “No”; they should be able to multiply 10, 10, and 26.

25. (A) **Mathematics/Geometry/Circles.** The degree measure of the circumference of a circle is 360° , so :

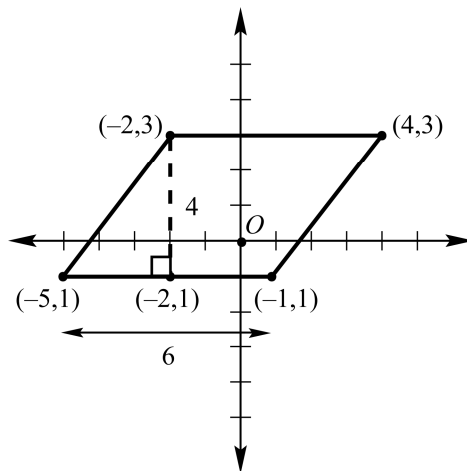
$$\frac{360^\circ}{\cancel{\text{revolution}}} \cdot \frac{45 \cancel{\text{ revolutions}}}{\cancel{\text{minutes}}} \cdot 1.5 \cancel{\text{ minutes}} = 24,300^\circ$$

26. (F) **Mathematics/Algebra/Evaluating Sequences Involving Exponential Growth.** The second term is 36 divided by -3 , and the third term is -12 divided by -3 , so the fourth term is 4 divided by -3 , or $-\frac{4}{3}$.

27. (D) **Mathematics/Algebra/Manipulating Algebraic Expressions/Manipulating Expressions Involving Exponents.** Perform the indicated operations: $\left[(a^3)^2 (a^2) \right]^3 = \left[(a^6)(a^2) \right]^3 = (a^8)^3 = a^{24}$.

28. (H) **Mathematics/Geometry/Rectangles and Squares and Arithmetic/Solving Complicated Arithmetic Application Items.** The perimeter of the room is $12 + 12 + 14 + 14 = 52$ feet. The length of a roll of border is $\frac{3 \text{ feet}}{\cancel{\text{yards}}} \cdot 5 \cancel{\text{ yards}} = 15$ feet. And $\frac{52 \text{ feet}}{15 \text{ feet}} = 3$, plus a remainder of 7. So, Joe will need 4 rolls.

29. (C) **Mathematics/Coordinate Geometry/Distance Formula and Geometry/Complex Figures and Rectangles and Squares and Triangles/Working with Triangles.** The length of the base of the parallelogram is the difference in the x -coordinates of the two endpoints of the segment: $1 - (-5) = 6$. Now, construct an altitude:



The length of the altitude is the difference in the y -coordinates: $3 - (-1) = 4$. Therefore, the area of the parallelogram is $ab = 4 \cdot 6 = 24$.

Alternatively, recognize that the parallelogram is a complex figure comprised of two equal triangles and a rectangle. The area of the rectangle is $(|-2| + 1)(|-1| + 3) = 3(4) = 12$. The area of each of the triangles is $\frac{ab}{2} = \frac{4(|-5| - |-2|)}{2} = \frac{4(5 - 2)}{2} = \frac{4(3)}{2} = 6$. Therefore, the area of the parallelogram is $12 + 2(6) = 24$.

30. **(K) Mathematics/Geometry/Lines and Angles** and **Algebra/Manipulating Algebraic Expressions/Creating Algebraic Expressions**. Translate the given information into an algebraic expression: $5x + x = 180$, where x is the degree measure of the smaller angle. Now, solve for x : $6x = 180 \Rightarrow x = 30$. So, the larger angle has a degree measure of $5(30) = 150$.

Alternatively, if unable to deduce the geometric solution to this item, use the “guesstimation” strategy as a last resort. Look at the figure: how large is $\angle ABD$? It is much bigger than 90° , so (K) must be the correct choice.

31. **(E) Mathematics/Coordinate Geometry/Slope-Intercept Form of a Linear Equation** and **Slope of a Line**. The trick to solving this item quickly is to recognize that the equation $3x - 2y = 24$ is presented in the standard form ($Ax + By = C$), so the slope is equal to $-\frac{A}{B}$, or $-\frac{3}{-2} = \frac{3}{2}$.

Or, rewrite the equation so that it is in the slope-intercept form ($y = mx + b$): $3x - 2y = 24 \Rightarrow 2y = 3x - 24 \Rightarrow y = \frac{3}{2}x - 12$.

Finally, it’s possible to find the slope, or “rise-over-run,” without knowing the standard form or point-slope form of the equation. Any pair of points can be used to find the slope. So, let $x = 0$: $3(0) - 2y = 24 \Rightarrow y = -12$. And then let $y = 0$: $3x - 2(0) = 24 \Rightarrow x = 8$. Now, calculate the “rise-over-run” using the coordinate pairs $(0, -12)$ and $(8, 0)$. The rise is $0 - (-12) = 12$, and the run is $8 - 0 = 8$. Therefore, the slope is $\frac{12}{8} = \frac{3}{2}$.

32. **(K) Mathematics/Algebra/Solving Algebraic Equations or Inequalities with One Variable/Simple Inequalities** and **Manipulating Algebraic Expressions/Creating Algebraic Expressions** and **Arithmetic/Solving Complicated Arithmetic Application Items**. Translate the given information into an algebraic inequality: $5n > 60$, where n is the minimum number of tickets. Now, solve for n : $n > \frac{60}{5} \Rightarrow n > 12$. Therefore, the minimum number of tickets must be 13.

33. **(B) Mathematics/Coordinate Geometry/Slope-Intercept Form of a Linear Equation**. Use the provided pair of points to produce the slope-intercept equation for the line. The slope is “rise-over-run”: $\frac{0 - 6}{0 - (-12)} = -\frac{1}{2}$. And at $x = 0$, $y = 0$. So, the equation is: $y = -\frac{1}{2}x$.

Alternatively, “test-the-test” by substituting the given coordinate pairs, $(0, 0)$ and $(-12, 6)$, into the equations in the answer choices to find the one that yields true statements for both coordinate pairs. (B) is the only equation that works for both $(0, 0)$ and $(-12, 6)$: $0 = -\frac{1}{2}(0) \Rightarrow 0 = 0$ and $6 = -\frac{1}{2}(-12) \Rightarrow 6 = 6$.

34. **(H) Mathematics/Algebra/Expressing and Evaluating Algebraic Functions/Concepts of Domain and Range** and **Solving Quadratic Equations**. The given expression is undefined when the denominator equals zero, or $x^2 - 2x - 3 = 0$. Factor the quadratic expression:

$$x^2 - 2x - 3 = (x - 3)(x + 1)$$

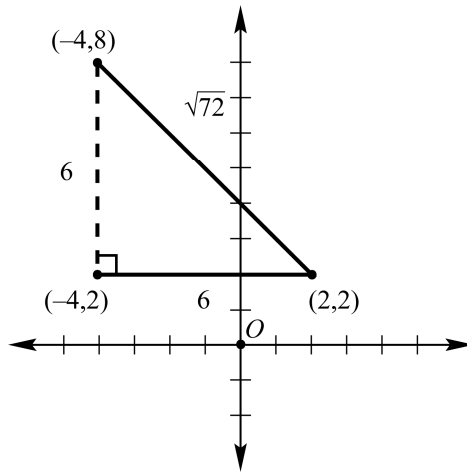
So, the denominator equals zero when $x = 3$ or $x = -1$.

Alternatively, “test-the-test” by substituting values from the answer choices back into the expression $x^2 - 2x - 3$. The correct choice will be the value(s) that make $x^2 - 2x - 3$ equal to zero (causing the given expression in the item stem to result in division by zero). First, test $x = 0$: $0^2 - 2(0) - 3 = -3$, so $x = 0$ does not result in division by zero—eliminate (F) and (K). Next, test $x = 3$: $3^2 - 2(3) - 3 = 9 - 6 - 3 = 0$, so $x = 3$ does result in division by zero and is part of the correct answer—eliminate (J). Finally, test $x = -1$: $(-1)^2 - 2(-1) - 3 = 1 + 2 - 3 = 0$, so $x = -1$ does result in division by zero, and (H) is the correct choice.

35. **(B) Mathematics/Arithmetic/Common Arithmetic Items/Properties of Numbers.** Factor 30: $30 = (15)(2) = (5)(3)(2)$. Therefore, 30 has three prime factors: 2, 3, and 5.

36. **(G) Mathematics/Coordinate Geometry/Distance Formula and Triangles/Pythagorean Theorem.** Use the distance formula:
- $$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2} = \sqrt{[2 - (-4)]^2 + (2 - 8)^2} = \sqrt{6^2 + (-6)^2} = \sqrt{72}.$$

Alternatively, use the Pythagorean theorem:



37. **(D) Mathematics/Geometry/Lines and Angles.** The trick to solving this item is to recognize that a trapezoid is comprised of two triangles and so the total interior measure of the angles of the trapezoid must be $2(180^\circ) = 360^\circ$. Use the given ratio of the interior angles to create an equation: $3x + 4x + 5x + 6x = 360$, where x is the smallest angle. Now, solve for x : $18x = 360 \Rightarrow x = 20$. Therefore, the largest angle is $6x = 6(20) = 120$.

38. **(K) Mathematics/Arithmetic/Common Arithmetic Items/Ratios and Algebra/Manipulating Algebraic Expressions/Manipulating Expressions Involving Exponents.** Perform the indicated operations:

$$\frac{2^2}{4^4} = \frac{4}{(4)(4)(4)(4)} = \frac{1}{(4)(4)(4)} = \frac{1}{64}.$$

39. **(A) Mathematics/Statistics and Probability/Data Representation/Tables (Matrices) and Averages and Algebra/Manipulating Algebraic Expressions/Creating Algebraic Expressions.** Translate the given information into an algebraic expression for the average. The average of the four tests is their sum divided by

4, and that value must be greater than or equal to 90, so $\frac{85 + 93 + 89 + x}{4} \geq 90$.

40. **(J) Mathematics/Statistics and Probability/Data Representation/Tables (Matrices) and Arithmetic/Common Arithmetic Items/Percents.** This item asks for percent change, so use the “change-over-original” equation:

$$\frac{\text{Change}}{\text{Original Total}} = \frac{78 - 69}{69} = \frac{9}{69} \approx 13\%$$

41. **(B) Mathematics/Statistics and Probability/Data Representation/Tables (Matrices) and Averages.** The core concept tested here is an average with a missing element, but the problem is dressed out with some additional details, making it more difficult than a simple “Find the missing data value” question. The total point score for all 10 students in the class on Homework #1 was $86.7 \cdot 10 = 867$. Richard got a score of 96, so the other 9 students got scores totaling $867 - 96 = 771$. On the assumption that 7 students scored a perfect 100 and 1 student scored a 71, there would be a total score of 771 generated by 8 students. So, it is possible for 1 student to have received a score of 0.
42. **(H) Mathematics/Arithmetic/Common Arithmetic Items/Properties of Numbers.** List the perfect squares (with more than one digit) of integers, until one is found that ends in the 2 digits listed in one of the answer choices. Starting with 4^2 , the perfect squares are 16, 25, 36, 49, 64, 81, 100, 121, 144, 169, 196, 225, 256. Therefore, (H) must be the correct choice.
43. **(E) Mathematics/Arithmetic/Simple Manipulations.** The quickest and least error-prone method for solving this item is to convert the fractions to equivalent fractions with a common denominator: $-\frac{3}{7} = -\frac{27}{63}$, $-\frac{5}{9} = -\frac{35}{63}$, and $-\frac{2}{3} = -\frac{42}{63}$. And $-\frac{42}{63} < -\frac{35}{63} < -\frac{27}{63}$, so $-\frac{2}{3} < -\frac{5}{9} < -\frac{3}{7}$.
44. **(J) Mathematics/Coordinate Geometry/The Coordinate System.** Use the formula for finding the midpoint of a line in the coordinate plane:

$$m = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right) = \left(\frac{3 + 10}{2}, \frac{6 + (-24)}{2} \right) = \left(\frac{13}{2}, -9 \right)$$

45. **(A) Mathematics/Coordinate Geometry/Graphs of Quadratic Equations.** Use the standard form of the equation for a circle:

$$(x - h)^2 + (y - k)^2 = r^2$$

The center of the circle is (h, k) or in this case $(3, 8)$:

$$(x - 3)^2 + (y - 8)^2 = r^2$$

And if the circle is tangent to the horizontal axis, then the circle has a radius of 8:

$$(x - 3)^2 + (y - 8)^2 = 64$$

Alternatively, “test-the-test.” Since the center of the circle is $(3, 8)$, it must be tangent to the x -axis at $(3, 0)$ and so includes this point. Substitute these values for x and y until one is found that yields a true statement. Only

$$(A) \text{ works: } (3 - 3)^2 + (0 - 8)^2 = 64.$$

46. **(G) Mathematics/Geometry/Circles.** This is a fairly typical standardized test math example. Test-writers frequently use the circle because the relationships of radius, diameter, circumference, and area are fixed, and information about any one of them allows for the inference of the others. Students, of course, should be familiar with that information, and they should also have the confidence that the figure contains all the

information needed to answer the question. The circumference of the circle is $2\pi r = 2\pi(8) = 16\pi$. The arc is $\frac{60}{360} = \frac{1}{6}$ of the circumference, so the length of the arc is $\frac{1}{6}(16\pi) = \frac{8\pi}{3}$.

47. (A) **Mathematics/Algebra/Solving Algebraic Equations or Inequalities with One Variable/Equations Involving Integer and Rational Exponents.** Perform the indicated operations:

$$(27)(3^x) = 9^{y-6}$$

$$(27)(3^x) = 9^{6-6}$$

$$(27)(3^x) = 1$$

So, 3^x is the reciprocal of 27, and $x = -3$.

Alternatively, this item can be conceptualized as follows:

$$(3^3)(3^x) = (3^2)^{y-6}$$

Therefore:

$$3 + x = 2(y - 6)$$

$$3 + x = 2(6 - 6)$$

$$x = -3$$

48. (H) **Mathematics/Geometry/Complex Figures and Circles.** The shaded area is the difference between the areas of two one-quarter circles with a common center. The area of the larger circle is $\pi r^2 = \pi(5+3)^2 = 64\pi$, and the area of the smaller circle is $\pi(5)^2 = 25\pi$. The difference is $64\pi - 25\pi = 39\pi$. And since the figure is only one-fourth of the circles, the shaded area is $\frac{39\pi}{4}$.

49. (A) **Mathematics/Trigonometry/Definitions of the Six Trigonometric Functions.** The trick to solving this item is to recognize that the distance along the ground can be found using the definition of the tangent of an angle (tangent = $\frac{\text{side opposite}}{\text{side adjacent}}$). The angle opposite the unknown distance is $90^\circ - 52^\circ = 38^\circ$, so $\tan 38^\circ = \frac{x}{1,130} \Rightarrow x = 1,130 \tan 38^\circ$.

50. (F) **Mathematics/Algebra/Solving Algebraic Equations or Inequalities with One Variable/Inequalities Involving Absolute Value.** If $|x| > n$, then $x < -n$ or $x > n$. But since $n = n$, $n > n$ is not possible and $n < -n$. Thus, n must be negative.

Alternatively, assume values for n and “plug-and-chug.” If $n = 1$, then $|n| > n$ is false, so n cannot be positive. If $n = 0$, then $|n| > n$ is false, so n cannot be 0. If $n = -1$, then $|n| > n$ because $|-1| > -1$, so n can be negative.

51. (A) **Mathematics/Geometry/Lines and Angles.** Only (A) must always be false: if \overline{AB} and \overline{CD} were parallel to each other, then the degree measure of $\angle D$ would be equal to the degree measure of $\angle A$ —in contradiction to the information provided. Note that (B), (C), and (D) may be either true or false, while (E) is always true.



52. (J) *Mathematics/Algebra/Manipulating Algebraic Expressions/Evaluating Expressions.* Since $a + b + c = 50 \Rightarrow c = 50 - (a + b)$. Thus, the minimum possible value for c occurs when a and b have their respective maximum possible values, -1 and 29 , respectively. Therefore, the minimum possible value of c is $50 - (-1 + 29) = 50 - 28 = 22$.

53. (E) *Mathematics/Coordinate Geometry/Qualitative Behavior of Graphs of Functions.* A polynomial of degree n can have at most n roots, so a second-degree equation can have at most two zero solutions (though it may have fewer). Since the line will cross the x -axis at $y = 0$, $P(x)$ must be at least a third-degree polynomial.

Or, you might encourage students to think about this item from a testing perspective. There is a limit to the complexity of ACT items, and polynomials of the fourth, fifth, and sixth degrees exceed that limit. So, a student might at least ask, "How many solutions does a second degree equation have?" And that will be enough to answer this question.

54. (G) *Mathematics/Geometry and Arithmetic/Common Arithmetic Items/Ratios and Algebra/Manipulating Algebraic Expressions/Manipulating Expressions Involving Exponents.*

Let r be the radius of the original cone and h its height. Therefore, the ratio between the two is:

$$\frac{\frac{1}{3}\pi r^2 h}{\frac{1}{3}\pi (2r)^2 (3h)} = \frac{r^2 h}{4r^2 (3h)} = \frac{1}{12}$$

55. (E) *Mathematics/Algebra/Solving Quadratic Equations.* Rewrite the equation, setting the polynomial equal to 0:

$$x^2 - x - b = 0$$

For the equation to have two integer solutions, one positive and the other negative, the factors of the polynomial have the form:

$$(x + h)(x - k) = 0, \text{ where } k > h$$

This eliminates (A), (B), and (C). Then, if $b = 9$, the equation would not have integer solutions. So, (E) is the correct choice.

A student who has time could test each of the choices, factoring the polynomial to see which value would generate two integer solutions:

$$x^2 - x - 12 = 0$$

$$(x - 4)(x + 3) = 0$$

So, $x = 4$ or $x = -3$.

56. (G) *Mathematics/Arithmetic/Common Arithmetic Items/Properties of Numbers.* The sum of three consecutive integers is represented as:

$$n + (n + 1) + (n + 2) = 3n + 3 = 3(n + 1)$$

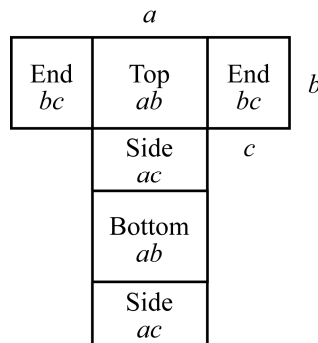
So, 3 is a factor of the sum of any three consecutive integers.

Alternatively, test series of threes:

$1 + 2 + 3 = 6$ (divisible by 2, 3, and 6 but not 4 or 5)

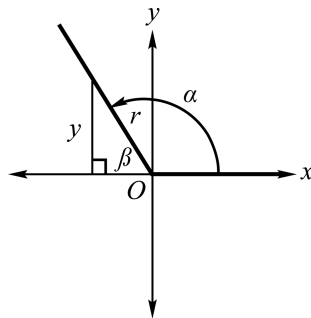
$2 + 3 + 4 = 9$ (divisible by 3 but not 2 or 6); $3 + 4 + 5 = 12$ (divisible by 2, 3, 4, and 6 but not 5). Therefore, of the answer choices, only 3 is always a factor of the sum of any three consecutive integers.

57. (E) **Mathematics/Geometry/Rectangles and Squares.** The trick to solving this item is to recognize that the solid can be translated into a plane figure:



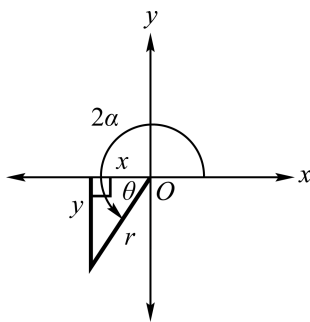
Therefore, total surface area of the block is $ab + ab + ac + ac + bc + bc = 2(ab + ac + bc)$.

58. (G) **Mathematics/Trigonometry/Determining Trigonometric Values and Triangles/30°-60°-90° Triangles.** Based on the information given in the item stem, $\angle \alpha$ is as indicated in the following figure:



In order to determine the value of $\cos 2\alpha$, find the measure of $\angle \alpha$. In the second quadrant, $\sin \alpha = \sin \beta$, so $\sin \alpha = \sin \beta = \frac{y}{r} = \frac{\sqrt{3}}{2}$. The ratio $\sqrt{3}$ to 2 implies that the triangle in the second quadrant is a 30° - 60° - 90° triangle, so $\angle \beta = 60^\circ$. Therefore, $180^\circ = \angle \alpha + \angle \beta \Rightarrow \angle \alpha = 180^\circ - 60^\circ = 120^\circ$. Use a calculator to determine $\cos 2\alpha$: $\cos 2\alpha = \cos(2 \cdot 120) = \cos 240^\circ = -0.5 = -\frac{1}{2}$.

Alternatively, determine $\cos 2\alpha$ from the following figure:



Again, the triangle in the third quadrant is a 30° - 60° - 90° triangle, with $y = \sqrt{3}$ and $r = 2$, so $x = 1$. In the third quadrant, $\cos 2\alpha = -\cos \theta$, and $\cos \theta = \frac{x}{r} = \frac{1}{2}$, so $\cos 240^\circ = -\cos \theta = -\frac{1}{2}$.

59. (A) **Mathematics/Trigonometry and Coordinate Geometry/Transformations and Their Effects on Graphs of Functions.** This item doesn't really test the properties of trigonometry. Rather, it tests knowledge of transformations on graphs of functions. If $y = f(x)$, then $y = 2f(x)$ is the same graph, but with the y -values for every x value equal to twice the original. Therefore, the function crosses the x -axis the same number of times: k .
60. (J) **Mathematics/Coordinate Geometry/The Coordinate System.** In the given coordinate plane, D is immediately to the left of E , and the measure between them is $e - d$. When D is rotated 180° about E , the result, F , is located immediately to the right of E . So, the y -coordinate of F is also k —eliminate (F) and (G). Now, since the measure between E and F is the same as that between D and E , it too is represented by $e - d$. So, the x -coordinate of F is the sum of two measures: from the origin to e , which is e , and $e - d$. $e + e - d = 2e - d$, so (J) is the correct choice.

TEST 3: READING

Passage I

1. **(C) Reading/Prose Fiction/Main Idea.** This item asks about the main theme or overall development of the selection. The first four paragraphs describe the relationship between the narrator and her grandmother. The narrator describes various idiosyncrasies of her grandmother, like the lack of a telephone, her approach to business, and her attitude toward the plum tree, but overall the narrator's treatment is affectionate. Then, the passage shifts to the relationship between the narrator and Laurence and describes how the narrator imposed on her grandmother for a favor on Laurence's behalf. But when she and Laurence are alone, Laurence shows his contempt for the grandmother's generosity by tossing away one of the tomatoes. The narrator reflects on the effort that her grandmother expended to grow the tomato; and at this point, the narrator becomes angry and walks away, leaving Laurence behind. So, the story is primarily about the narrator's ambivalence toward Laurence and her change in attitude. (A) illustrates the importance of reading the entire answer choice. (A) is interesting in its use of the phrase "come to regret" because that phrase seems to describe the passage. But then the rest of the answer choice makes it incorrect. The narrator does not regret running errands for her grandmother; she regrets having asked her grandmother for a favor on Laurence's behalf. (B) can't refer to the narrator because the narrator is not a grown woman. So, (B) must refer to the grandmother. But then (B) is wrong because there is no indication that the grandmother has lost any of her enthusiasm for gardening. (C) is the correct response for the reasons outlined above. (D) is wrong because it is the narrator who feels resentment at Laurence's disregard for the favor, not Laurence who feels resentment. If this were a class in literature, it might be worth exploring Laurence's motivations. As a young male, he perhaps feels that showing disregard for convention is a way to demonstrate independence and thereby impress the narrator, and he is frustrated and resentful when this action is not appreciated. But this analysis is far more subtle than the ACT requires. More importantly, the analysis still would not make (D) the right answer to the question, which asks about the most important idea developed.
2. **(F) Reading/Prose Fiction/Implied Idea.** This question asks for a conclusion about two of the characters in the narrative. According to lines 39–46, Laurence insists upon following certain procedures when fishing, and according to lines 15–21, the grandmother carefully follows certain procedures while gardening. From these descriptions, we can conclude that each has a preference for a process in a certain activity. (F) is correct because the passage makes it clear that both Laurence and the grandmother have strong preferences for their own ways of doing things. (G) is contradicted by the text. The two are not indifferent to the manner in which the activities are carried but are instead very particular about the details. (H) is interesting because the phrase "uphold traditions" is at least suggestive of an attitude that regards formal process as valuable. But (H) fails because the preference is for a personal style, not for "traditions established by others." So, (H) has some merit, but it is a good reminder of the importance of reading the entire choice. (J) is wrong because the story makes clear that the grandmother is willing to do even more than what is expected of her. Even Laurence seems to feel pressure to conform to some sort of standard; otherwise, he would not have called out to the narrator as she left.
3. **(C) Reading/Prose Fiction/Explicit Detail.** This item includes a thought-reverser, so you may want to remind the students that the choice that would ordinarily be "wrong" is correct, and the "right choices" are wrong. The correct answer is the one not mentioned. And the wording of the question indicates that answering will require a search of the entire passage. Nowhere does the narrator indicate that she "envies" Laurence. (A) is wrong because the narrator mentions that she is "grateful" in line 45. (B) is wrong because the narrator mentions "love" in line 47. (C) is correct because "envy" is not mentioned in the selection. (D) is wrong because anger is mentioned in line 96.
4. **(J) Reading/Prose Fiction/Implied Idea.** One of the skills tested by ACT reading is that of locating and understanding sequential and causal connections. This item is an example. Of course, when we deal with human motivation and the justification or explanation of actions and decisions, we are not looking for causal connections but for something similar, for the "why." There are various clues to the answer to this question in

the lines leading up the encounter. The narrator has the expected feelings for her grandmother, but she also cares for Laurence. We learn in line 48 that the narrator is not supposed to socialize with Laurence but does anyway. So, there is a tension between the sides of the narrator’s life. Then, in lines 65–66, we learn that the narrator is apprehensive that Laurence will be impolite to her grandmother. So, the encounter is a balancing act, as (J) suggests. (F) is wrong because Laurence doesn’t damage the plums, only the tomato, and that occurs outside the presence of Omah. (G) is wrong because Laurence doesn’t ask any questions, though he is standoffish. (H) is wrong because Laurence doesn’t refuse to take the plums. (J) is correct. It is the ambivalence that explains the narrator’s discomfort.

5. **(A) Reading/Prose Fiction/Development.** The question asks about the purpose of the details in lines 55–61. There the narrator mentions that Laurence stands aside and assumes a defensive posture. The grandmother, however, responds positively. Her eyes brighten and her step quickens. So, these details are the clues the author provides to permit the reader to conclude what attitudes the two characters exhibit. (A) correctly describes the purpose of the descriptions. They provide the clues that permit the reader to understand the contrasting attitudes. (B) is wrong because the passage doesn’t provide any information about Laurence’s home. And though we do learn some facts about the grandmother’s house and garden, there is no contrast between the two. (C) is incorrect because the information is provided to help understand the grandmother and Laurence. The paragraphs cited don’t really provide any new information about the narrator. (D) is wrong because there is no mention of a disagreement while the plums are being picked. To be sure, (D) has the “feel” of (A) in that there is tension in the situation. But (A) describes the circumstances very precisely; (D) does not.
6. **(F) Reading/Prose Fiction/Implied Idea.** This is a fairly easy Implied Idea item that asks for a description of Laurence’s behavior. In line 55, the narrator states that Laurence assumes a somewhat defensive posture but eventually breaks his silence to make a comment. (F) correctly describes Laurence’s behavior. He is initially aloof then tentatively involved. The addition of the word “tentatively” makes the answer especially attractive. Laurence never drops his guard. (G) is wrong because withdrawn or aloof is not the same thing as clumsy. Additionally, there is no support in the text for the conclusion that Laurence means well. In fact, his behavior later makes this seem unlikely. (H) is wrong because initially Laurence is withdrawn. (J) is wrong because Laurence is calm—defensive or withdrawn but calm.
7. **(B) Reading/Prose Fiction/Implied Idea.** In lines 91–93, the narrator asks herself what Laurence knows about hauling water and caring for seeds. These are labor-intensive, tedious activities associated with gardening. So, the narrator is comparing the value of the work done by her grandmother with Laurence’s callous disregard for her efforts. (A) is wrong because Laurence didn’t learn anything from the encounter with Omah about tending a garden. He just picked some plums and left. (B) is the correct response. The narrator is angry (line 96) at Laurence for failing to appreciate the work done by her grandmother. (C) might at first seem to have some merit because it uses the word “disappointed,” and it seems a fair conclusion that the narrator is disappointed in Laurence’s behavior. But that is not what (C) says. (C) says that the narrator is disappointed in herself. (D) is wrong for several reasons. First, the gap was not unexpected. In fact, the narrator was afraid that the two would not like each other. Second, there is no indication that the narrator hopes that she can bridge the gap.
8. **(G) Reading/Prose Fiction/Implied Idea.** The first two paragraphs explain how Omah runs her business. She gets an order, but then fills the order in the way she thinks is appropriate. Although the order may specify one color of flower, she takes the liberty of adding another. In fact, the example of an order (“A dozen or two glads”) suggests that her customers just submit a general request and trust her to fill in the details. (F) is contradicted by the text of the first two paragraphs because the narrator makes it clear that her grandmother does not follow the letter of the instructions. (G) is correct because Omah adjusts the order to conform to her sense of what is required by the occasion. (H) is an idea that seems to be supported somewhat by the text, but the narrator does not say the colors are brighter near the top, only that the top is where Omah finds the “perfect ones.” So, (H) is really not a correct restatement of the text. (J) is wrong because the narrator does not mention that her grandmother asks her questions about the orders.

9. **(D) Reading/Prose Fiction/Vocabulary.** The narrator uses the idea of “wedges” to indicate that the friendship with Laurence causes splits or tensions in her life. (A) is wrong. In this context, “wedges” are devices or occurrences that when inserted into small cracks cause them to grow larger. (B) is wrong because the “wedges” do not brace or strengthen aspects of the narrator’s life. (C) is interesting because at least the “inter” prefix suggests the idea of introducing something between two things. But “intervention” doesn’t have the meaning of separating intended here. (D) is the right response. A wedge is used to create a split or division.
10. **(H) Reading/Prose Fiction/Implied Idea.** The meeting between Omah and Laurence is characterized by tension, and the narrator looks for a way of defusing the situation. Additionally, the narrator has to ask for a favor on behalf of someone who does not have standing as Omah’s friend. So, the narrator phrases her statement indirectly by referring to Laurence’s mother’s needs. (F) is wrong because nothing is really said about Laurence’s mother other than that she could use some plums. (G) is perhaps the second best answer. The narrator’s remark certainly has something to do with the tension between the other two people in the scene. But the remark is made for Omah’s benefit, not Laurence’s. (H) is the right answer. The remark is intended to appeal to Omah’s sense of the rightness of helping someone else. (J) is wrong because the passage doesn’t even mention the narrator’s mother.

Passage II

11. **(D) Reading/Social Science/Explicit Detail.** This is an Explicit Detail question that asks the test-taker to locate important ideas at various points in the passage. The thought-reverser, “EXCEPT,” turns the question inside-out, and the “right” answers (those mentioned) are wrong while the “wrong” answer (that not mentioned) is right. (A) is incorrect because “affirmative action policies” is mentioned in lines 43–44. (B) is incorrect because the passage is filled with examples of Marshall’s commitment to the legal process as an agent of change. (C) is wrong because the passage mentions in line 71 that Marshall’s views were shaped by his experiences in Baltimore. (D) is the right answer. The passage states that Marshall was a Justice on the Supreme Court and that he supported individual rights, but there is no mention of his supporting “new powers” for the Court.
12. **(H) Reading/Social Science/Application.** In the first paragraph, the author explains that Marshall was a powerful force for change and mentions especially his support for individual rights in a variety of contexts. (F) is wrong because the first paragraph specifically mentions that Marshall included “immigrants” as a group in need of additional legal protections. (G) is somewhat attractive because the author does call Marshall a radical. But the rest of the choice is incorrect. Marshall did not focus on freedom of the press. According to the author, the press was included in Marshall’s concern for protection of liberty, but the text doesn’t say that the press was a “focus” of his concern. (H) is correct. The first paragraph mentions that Marshall expanded rights for Americans in general and lists the groups for whom Marshall sought protection. This information is neatly summarized by (H). (J) is wrong because the first paragraph doesn’t say that the prisoners, children, and homeless were not citizens. Immigrants are mentioned as a separate group.
13. **(B) Reading/Social Science/Vocabulary and Development.** This item is about the meaning of a phrase in context. The author describes Marshall as a “colossus” who ranked alongside King and Malcolm X, and whose accomplishments even surpassed those of these two men. (A) is incorrect because the author distinguishes both Marshall’s accomplishments and his standing within the African-American community from those of King and Malcolm X. (B) is correct. “Colossus” means “giant” (in the sense of great or powerful), as can be inferred from the context. Marshall was a great leader of the stature of King and Malcolm X. And, according to the first sentence of the paragraph, he was considered great by black Americans in particular. (C) is wrong because the word refers to Marshall himself, perhaps his career and accomplishments by extension, but not to his education. (D) is incorrect because even allowing that some segments of the public other than the black community might not know a lot about Marshall’s work, that is not why the author describes Marshall as a colossus.

14. **(G) Reading/Social Science/Explicit Detail.** In the fourth paragraph, the passage sketches some of the important effects of the decision in *Brown v. Board of Education*. The decision put an end to legal segregation (though, of course, *de facto* segregation continued to exist) and eventually helped to create a black middle class. (F) is wrong because the decision helped to further the civil rights movement, not put an end to it. (G) is the correct answer. One of the outcomes of the decision was the rise of a black middle class. (H) is incorrect because the passage does not mention other suits like *Brown*. As a matter of test-taking strategy, if this were going to be the correct answer in this case, you'd find "other suits" listed as one of the effects of the decision in the paragraph that discusses the decision. (J) is incorrect because at the time of the decision Marshall was not on the Supreme Court. He won the case before the Court as a lawyer. Only later was he appointed as a justice.
15. **(C) Reading/Social Science/Main Idea.** This is a Main Idea question that focuses on the fifth paragraph. There the author explains that as a Supreme Court Justice, Marshall advocated affirmative action as a remedy for the legacy of slavery and racial bias. Marshall realized that the end of legal segregation did not automatically mean equality of educational and economic opportunity. (A) is incorrect because Marshall does not question the effectiveness of programs like affirmative action. Instead, he advocated such programs. (B) is incorrect. While Marshall recognized that legal discrimination had ended, practically more was left to be done. So, the main idea of the fifth paragraph is not some sort of statement about the end of legal segregation. (C) is the correct response. Marshall recognized that the end of legal segregation was the end of one stage in the process of bringing about equality but the beginning of another stage. Specifically, there were vestiges of a legacy of inequality to be eliminated. (D) is wrong because the paragraph makes it clear that Marshall was an advocate of affirmative action.
16. **(J) Reading/Social Science/Explicit Detail.** Lines 68–78 describe the influences on Marshall's intellectual development. The question stem here contains a thought-reverser, "EXCEPT," so three of these four ideas will be mentioned in that paragraph. One will not; that is the right answer. (F) is incorrect because the first sentence of the paragraph specifically mentions Marshall's middle-class black perspective as an important influence on his thinking. (G) is wrong because the third sentence of that paragraph cites Marshall's interracial family background. (H) is incorrect; the passage specifically references that Marshall came out of a black activist community. (J) is the correct response. The passage does state that Marshall was a Supreme Court Justice, and the text indicates that Marshall had a long and distinguished legal career. But the passage does not say that his long tenure was responsible for creating his belief in racial integration. If anything, we should probably conclude that Marshall's commitment to racial integration was a motivating factor in his decision to serve for so long.
17. **(D) Reading/Social Science/Implied Idea.** The question asks for an inference about the effect of Marshall's reclusive behavior. According to the last paragraph, because the public didn't enjoy very direct access to Marshall, he was mostly known only through his Supreme Court judicial opinions. Additionally, because he was a lawyer—a traditionally conservative profession—and member of the Supreme Court, his radical thinking was not widely known. (A) is wrong because the passage does not imply an inconsistency between Marshall's later views and his earlier views. In fact, the author clearly implies that Marshall maintained his basic principles from his days as an activist lawyer through his tenure on the Court. (B) is incorrect because the passage says that Marshall seemed to recede into the background, a sort of "out of sight, out of mind" development. He didn't make appearances or give interviews, so people almost forgot about him. (C) is incorrect because, as already noted above, Marshall seemed to maintain a constant philosophical position throughout his career. (D) is the correct response. The passage suggests that Marshall was "out of sight, so out of mind." The public didn't hear much about him, so they just assumed that he was "an old guy from the Civil Rights Movement days" and not very important. But, as the author argues, Marshall was arguably even more important than King or Malcolm X. His grand plan for desegregation and affirmative action—real, practical change and politics—had tremendous effect on the structure of American society.
18. **(J) Reading/Social Science/Explicit Detail.** This is an Explicit Detail question, so the correct answer will be stated in the text. (F) is incorrect because the second paragraph doesn't say anything about Marshall's position on the views of King or Malcolm X. The paragraph summarizes those views briefly to contrast them with

those of Marshall but doesn't say whether Marshall thought them consistent or inconsistent with his own philosophy. (G) is wrong because the author does not say what position Marshall took with regard to the views of Malcolm X. The passage does summarize the views of King and Malcolm X but doesn't give any hint as to what Marshall thought of them. (H) is wrong and is actually contradicted by the text. The author remarks that Marshall was the least well known of the three. (J) is the right answer. The author makes the point that though Marshall was not as well-known as the other two leaders, he had the greatest impact. In the very last sentence of the paragraph, the author uses the words "biggest impact on American race relations."

19. **(C) Reading/Social Science/Explicit Detail.** This is an Explicit Detail question, but the correct answer requires a bit of work. (A) is incorrect but somewhat attractive. In the final paragraph, the author mentions that Marshall's dissents on the Supreme Court were couched in "legislative language." The passage doesn't explain exactly what that means, and it is all but impossible to figure out from the one reference—though it apparently has something to do with Marshall's political philosophy. In any case, the passage does not refer to a "new" legislative language. (B) is wrong because Marshall was a "coat-and-tie" lawyer who practiced in the courts and later because a member of the Supreme Court. He was not an activist in the same way that King was. (C) is the correct answer. In lines 63–67, the passage specifically states that the *key* to Marshall's thinking was the conviction that integration was essential to full equal rights. (D) is wrong because Marshall realized the limits of race-neutral policies. He recognized that ending segregation alone would not be sufficient to overcome the legacy of slavery and inequality. This view is clearly described in lines 42–51.
20. **(F) Reading/Social Science/Explicit Detail.** The answer to this Explicit Detail question is found in the last paragraph. (F) is the right answer. In that last paragraph the author of the selection says that Marshall's vision is essential to study for anyone "delving into the subject," namely, race relations. (G) is incorrect because the "subject" referred to in the last line isn't the personalities or roles of King and Malcolm X but Marshall's philosophy and its influence on changing race relations. (H) is interesting. Someone might interpret "sophisticated definition of integration" to mean Marshall's theory of race relations. And that would be an intelligent and sophisticated argument. The problem from a test-taking point of view with (H) is that this is an Explicit Detail question. The right answer is specifically stated. (F) is right there in so many words in the last sentence and a much better choice. (J) is incorrect but, like (H), has some appeal. Yes, it is possible to twist and turn the words of (J) so that it seems to point to Marshall's judicial, legal, and social philosophy. But all that work is a clear indication that this is not the right answer to this Explicit Detail question. And, in fact, (F) is lying right there on the surface of the text.

Passage III

21. **(C) Reading/Humanities/Main Idea.** The author of this passage introduces us to the main sequence of events somewhat indirectly. The passage begins in the present time and talks about the author's success as a writer. Then, the letter from her sister takes us back to her years in high school. And it is the flashback that provides the main point of the selection. (A) is incorrect because the author does not say that rejection is "normal." At first, however, (A) does seem somewhat attractive because "rejection" is an important element of the passage. But when the entire response is examined, its weaknesses become apparent. (B) is wrong because the mention of "special education" is not a demand for such programs. The author says only, as a matter of fact, that at the time her sister was in school, there were no such programs. To be sure, if one wished to argue that special education is important, a story such as this could add persuasive appeal to the argument. But this author doesn't make such a point. (C) is the right answer. In line 54, the author says that she learned how much she and her sister had in common. She talks about her sister's behavior and then notes that she saw in that behavior her own feelings and needs. This idea is summarized by (C). (D) is incorrect because the author does not say that everyone has an *amma*. Her sister is her *amma*, and she feels lucky to have the insights shared by her sister. But the author does not make the point stated in the choice.
22. **(H) Reading/Humanities/Voice.** This question deals with the author's attitude. In the first paragraph, the author expresses some ambivalence about her success. She was puzzled by and uncomfortable with the fame brought by her literary success. Then, the letter from her sister put things into perspective for her, and she realized that

she'd been taking her fame too seriously. (F) is incorrect and is really contradicted by the text. The author concludes that fame and productivity seem to be inconsistent. (G) is incorrect. To be sure, the sister's opinion is not really reflective of the general opinion about the author's achievement, but that is not the conclusion the author draws. The sister's letter prompts the author to rethink the importance of literary success. (H) is the correct response. The phrase "impossible for us to be surrounded by worldly honor and at the same to bear heavenly fruit" is interpreted by the author to mean that fame and praise interfere with creative work. The author pursues the point in the next paragraph, noting that fame interferes with the ability to write. (J) is incorrect. The author does not say that writers necessarily have to endure hardship, so that part of the answer choice is incorrect. Additionally, the author is not claiming that writers are entitled to respect.

23. (C) **Reading/Humanities/Implied Idea.** The information needed to answer this item is in line 25. (A) is incorrect because the author doesn't wish for her sister's love; she apparently believes that she has it. In any case, her reaction to the letter doesn't show that she is lacking it. (B) is incorrect because the author spends two paragraphs explaining to the reader what the critique means. (C) is the correct response. In line 25, the author says explicitly that reading the letter caused her to laugh herself silly, which implies that the narrator has a healthy sense of humor. (D) is incorrect because she acknowledges that her sister is correct. That is the reason that she likens her sister to an *amma*.
24. (J) **Reading/Humanities/Vocabulary.** This is obviously a Vocabulary item. The author's conclusion in line 77 follows her discussion of her sister's behavior and her own feelings of alienation. (F) is wrong because though the sisters are evidently fond of each other, "otherness" is not used to refer to that affection. Instead, they both feel alienated from their social settings. (G) is incorrect because the sisters are not literally of foreign origin. They just feel as though they don't belong. The "new school" does not make the author or her sister "foreign." (H) is wrong because the author and her sister are alone but not by choice. The sister doesn't fit in because of her learning disability. The author doesn't fit in because she is new to the school, and everyone else has been together a long time. (J) is the correct answer. The "otherness" the two feel is a sense of not belonging or being outsiders.
25. (A) **Reading/Humanities/Explicit Detail.** According to the passage, an *amma* is an older woman who offers advice. The sister is not older than the author, but the comparison does suggest that she is wiser, in some ways, than her older sister. The author interprets the sister's comment as advice that helps her to see herself in a different light. (A) is the correct response. Becky's comment that she found the book boring prompted the author to rethink the value of fame and acclaim. She concludes that ultimately she needs to restore a balance to her life. So, the sister's comment served the same function as would advice from an *amma*. (B) is incorrect because there is nothing in the passage to suggest that Becky assumes this role in the family generally. This is a special relationship between the sisters. (C) is incorrect. At first, (C) seems promising because "the narrator was determined" suggests that the narrator has changed her opinion. But the narrator changed her opinion about her own self-importance. She didn't resolve to write books for her sister. (D) is incorrect because Amma Synclectica lived in the fourth century and so could not possibly have read the book or given the author any feedback.
26. (F) **Reading/Humanities/Implied Idea.** This item asks for the interpretation of a sentence that uses figurative language. The contrast is between "worldly honor" and "heavenly fruit." The author has been given the "worldly honor" of a noted writer, so the "heavenly fruit" must be her books. (F) is the right answer. The statement contrasts honor and productivity, noting that that one seems to exclude the other. Given the fact that the author concludes she's been overly concerned with honor, we infer that fame has made her less productive. So, she needs to be more humble. (G) is incorrect because the underlying contrast is between "fame" and "work," so "tolerant" doesn't enter into the balance. (H) is wrong but a little interesting. It might be possible to argue that "fair" means "balanced" and that the *amma* counsels "balance." But "balance" would be an additional dose of humility. So, there would be nothing wrong with writing an essay about the importance of "fair balance" in response to this selection, but the answer to the multiple-choice question ("What does the saying advise?") is "humility." That's a much better ACT answer. (J) is incorrect because "intelligent" doesn't enter into the contrast created by the saying.

27. **(B) Reading/Humanities/Implied Idea.** The author interprets the saying by Amma Synclectica as cautioning against too much concern for fame. Since the author’s fame derives from her writings, she realizes that fame may interfere with her ability to write. (A) is incorrect. This is the kind of answer choice that will be attractive to some students because it is edifying: it just sounds “so right.” But it is obviously wrong because at least one instinct leads the author to place too much emphasis on fame. (B) is correct. The author contrasts her obsession with fame and her ability to write and concludes that she should worry less about what people think and more about what she is doing. (C) is wrong because the saying advises to be less, not more, concerned with fame. (D) is incorrect because the saying emphasizes concentrating on one’s efforts at work, not worrying about what others think.
28. **(J) Reading/Humanities/Implied Idea.** This item asks for the meaning of the figurative language in line 29. Of course, “desert” usually is associated with a barren and lifeless expanse, but it has also connotations of loneliness and abandonment. (F) is incorrect for two reasons. “Desert” is not usually a symbol of “honesty.” Additionally, in the text that follows, the author describes her sister’s life and the sense of alienation. (G) is wrong because though a desert is dry, the author compares her sister’s life, not her sense of humor, to a desert. (H) is wrong because the picture the author gives of her sister’s life is not one of unqualified hopefulness but more one of a life characterized by alienation and a sense of being different and apart. (J) is the correct answer. The desert is supposed to suggest to the reader a barren landscape pretty much devoid of people.
29. **(C) Reading/Humanities/Voice.** This question deals with the author’s voice. And the structure of the answer choices makes the process of elimination a very effective tool for finding the right answer. (A) is incorrect. “Thoughtful” might be a good description of the author’s tone, but there is nothing to suggest that the author is either naïve or nostalgic. (Just mentioning the past in favorable terms is not nostalgia, which is longing to return to the past.) (B) is wrong. “Affectionate” and maybe even “secure” could be used to describe the author, but there is no hint of irony in the passage. (C) is the correct answer. The author respected her sister’s different intelligence (“open-minded” and “accepting”) and acknowledges that growing up with her sister was good for her (“grateful”). (D) is incorrect. The author could probably be labeled “aware” and “respective,” but “tenacious” is not a characteristic of the author. It was the sister who exhibited tenacity (line 53).
30. **(J) Reading/Humanities/Explicit Detail.** This item asks for a point of similarity between the lives of the two sisters. (F) is wrong because the pretend conversations were not carried on between the sisters. Indeed, it’s not clear how conversations between two real people could even be considered “pretend.” (G) is incorrect because both sisters seemed to have shown their concern about the opinions of others. Becky stomped around her room; the author listened to music and read. (H) is wrong because the idea is just not mentioned in the passage. (And Amma Synclecticus is not a family member.) To be sure, one could imagine that the family supported its members emotionally, but that would be highly speculative and not a possible basis for a question that asks about something explicitly stated in the passage. (J) is correct. Becky talked to herself, while the author read and imagined great careers, travels, and loves.

Passage IV

31. **(A) Reading/Natural Science/Development.** The question asks about the last four paragraphs. The author begins by explaining the contours of the scientific debate over the dinosaurs: endothermy versus ectothermy. The next two paragraphs provide some of the evidence and arguments for the endothermic view. Then, the fourth paragraph begins with “Many...remain wary.... [S]ome question....”. And the passage then develops the other side of the debate. (A) is the correct response. The last four paragraphs present the arguments against the revisionist theory, that is, for the cold-blooded theory against the new warm-blooded theory. (B) is incorrect. Turbinates are only one small piece of evidence in favor of the cold-blooded theory. And turbinates are mentioned only in the next-to-final paragraph, and so cannot possibly be the topic of the last four paragraphs. (C) is wrong because it is too narrow. The re-interpretation of the evidence provided by the Haversian canals that is presented in lines 52–63 is only one part of the last four paragraphs, not the overall theme. (D) is incorrect because the research done by Chinsamy and Owerkowicz focused on the Haversian canals and bone

growth rate. There is also the matter of turbinates, and the whole gigantothermy theory suggested in the last paragraph. So, (G) fails to capture the breadth of those last four paragraphs.

32. **(J) Reading/Natural Science/Main Idea.** This Main Idea question asks about the first paragraph. (F) is wrong because the debate is warm-blooded versus cold-blooded. The fact that dinosaurs survived for so long is just one piece of evidence in the debate (for the warm-blooded camp). (G) is incorrect because when the current debate started is not particularly important. Rather, the debate itself is important: what are the arguments and conclusions on both sides? (H) is wrong because it captures only half of that first paragraph. The first paragraph says that there is a debate. On one side are the scientists who argue that dinosaurs were warm-blooded. On the other side are those who think they were cold-blooded. No matter how one interprets (H), it only captures half of the first paragraph. (J) is the correct answer. The first paragraph describes the debate. It gives a quick summary of the conclusion of one group and a quick summary of the conclusion of the other. And (J) neatly summarizes the line drawn in the sand.
33. **(B) Reading/Natural Science/Vocabulary.** This is a difficult Vocabulary question. Some students may know the particularized meaning of the term in a religious context, but likely only a few will have encountered it in this context: follower. (A) is incorrect because an acolyte is someone who assists in a religious ceremony and so by extension is a believer or follower. (B) is correct because an acolyte is a believer or follower. (C) is wrong because an acolyte is a believer or follower, not someone who is agnostic. (D) is incorrect because an acolyte or follower of Bakker would hold that the dinosaurs were warm-blooded.
34. **(J) Reading/Natural Science/Explicit Detail.** (F) is wrong and ultimately a fairly weak answer because it says that only scientists can see these things. It's fairly hard to imagine how that could possibly be. (G) is incorrect because the text says specifically that the structures identified are typically found in mammals and birds. (H) is incorrect and, like (F), a weak answer. It's hard to imagine what would make an anatomical feature invisible to everyone but the supporters of a particular theory. So, (J) is the correct answer choice; the channels "appear...under the microscope" (lines 31–32).
35. **(B) Reading/Natural Science/Development.** This question asks about the author's reason for mentioning Owerkowicz's work showing that the Haversian canals could have result from exertion. (A) is incorrect. It is true that Owerkowicz hoped to prove that de Ricqlès was wrong, but wrong about the significance of the canals, not wrong about whether the canals actually were observed. (B) is the right answer. Owerkowicz theorized that the canals were the result of physical exertion rather than endothermy, as de Ricqlès argued. (C) is incorrect both because the evidence does explain the grand issue that is the topic of the passage and because Owerkowicz did not theorize two kinds of dinosaurs. (D) is incorrect and is a fairly weak response. It's difficult to imagine that a scientist would conduct an experiment to prove that it was possible to conduct an experiment.
36. **(H) Reading/Natural Science/Development.** This question asks why the author cites Chinsamy's research. Chinsamy noted the bands on bones that are associated with stop-and-start growth patterns. Since these are also found in modern reptiles whose growth rate changes according to seasonal temperatures, he theorized that the bands show that dinosaurs showed a growth pattern similar to that of modern reptiles. (F) is wrong because Chinsamy's research tends to show that dinosaurs were ectothermic while de Ricqlès argued that they were endothermic. (G) is wrong because Chinsamy and Owerkowicz researched different aspects of dinosaur anatomy and reached similar conclusions. (H) is the right response. Chinsamy and Owerkowicz worked on different aspects of dinosaur anatomy but both concluded that dinosaurs were ectothermic. (J) is incorrect because the work of Chinsamy and Owerkowicz contradicts the theory of Bakker.
37. **(A) Reading/Natural Science/Application.** This question asks the test-taker to use the information provided in lines 77–78 to reach a conclusion about another aspect of the passage. Turbinates, which are a feature of warm-blooded creatures, have not been observed in dinosaur remains, suggesting that dinosaurs were not warm-blooded. (A) is the right answer because Chinsamy is not a revisionist, that is, Chinsamy argues that dinosaurs were not warm-blooded. (B) is incorrect because Padian uses growth patterns to conclude that

dinosaurs were warm-blooded. (C) is wrong because Bakker is the main authority of the warm-blooded group of scientists. (D) is wrong because de Ricqlès is a member of the warm-blooded camp.

38. **(H) Reading/Natural Science/Explicit Detail.** The passage talks about the growth rate of modern ectotherms in lines 65–69. (F) is wrong because the reference connects growth rate to variations in temperature. (G) is wrong because the text connects growth rate and temperature. (H) is the correct response because Chinsamy concluded that the patterns were evidence of variation in growth rate according to changes in seasonal temperatures. (J) is wrong because Chinsamy doesn't relate growth rate to size. Rather, he relates growth rate to seasonal temperature fluctuations.
39. **(D) Reading/Natural Science/Explicit Detail.** In lines 73–78, reviewing the research on turbinates, the author lists those animals in which these features have been observed. Since there is a thought-reverser in the stem, "EXCEPT," the one that is not mentioned is the right response. (A) is wrong because birds are mentioned as having turbinates. (B) is wrong because mammals are mentioned as having turbinates. (C) is wrong because warm-blooded (endothermic) creatures are mentioned as having turbinates. (D) is correct. Turbinates are said not to occur in ectotherms.
40. **(G) Reading/Natural Science/Vocabulary.** In the last paragraph, we learn that a new term has been coined to account for how cold-blooded dinosaurs could have survived temperature fluctuations: gigantothermy. (F) is wrong because the term "gigantothermy" is used to explain why dinosaurs survived even though they were cold-blooded rather than warm-blooded. (G) is correct. As the final paragraph explains, a larger animal has less surface area compared to body mass for heat loss. (H) is wrong because smaller animals have a lower skin to mass ratio, making it more likely to lose body heat and therefore less able to survive if cold-blooded. (J) is incorrect because "gigantothermy" applies to large animals.

TEST 4: SCIENCE

Passage I: Scientist 1 argues that global warming is caused by human activities. These activities, specifically burning fossil fuels, have increased the concentration of carbon dioxide in the air, and the higher the concentration of carbon dioxide, the warmer the average surface temperature of Earth. Scientist 1 concludes that, while carbon dioxide concentrations have been increasing for 18,000 years, the recent acceleration has led to a series of record warm years.

Scientist 2 argues that the air concentration of carbon dioxide does not affect Earth’s surface temperature greatly, but instead, the primary factor in the increase is the increase in the Sun’s energy output. Additionally, a couple of other less important factors such as sulfate aerosols and ozone have some effect, and human activities account for only 6 billion tons of carbon dioxide each year, a small part of the 186 billion ton total. Long-term studies show that temperature changes parallel changes in solar energy output.

Both scientists apparently agree that there is global warming with effects such as the melting of the polar ice caps, but they disagree as to the cause.

1. **(B) Science/Conflicting Viewpoints/Comprehension.** Both scientists agree that temperatures are rising, so both would expect the polar ice caps to continue to melt, (B).
2. **(H) Science/Conflicting Viewpoints/Analysis.** Scientist 2 argues that carbon dioxide from human activities is not an important factor in global warming, so he or she would argue that eliminating this factor would have no effect, (H).
3. **(D) Science/Conflicting Viewpoints/Analysis.** The item stem requires translation of the information provided in Scientist 2’s argument into graphic form. Scientist 2 says that both temperature and solar output have increased over the past 18,000 years and that the relationship is a “parallel relationship.” Therefore, (D) is the correct choice. (A) and (B) are wrong because these graphs show temperature and solar energy output changing in opposite directions. (C) is wrong because, while this graph demonstrates a parallel relationship, it shows the two measures as decreasing, not increasing.
4. **(G) Science/Conflicting Viewpoints/Analysis.** This item stem requires the translation of the information provided in Scientist 1’s argument into graphic form. Scientist 1 says the rate of increase in atmospheric concentration of carbon dioxide has been 10 to 100 times that of the period prior to 1880. Therefore, (G) is the correct choice: after the rather gentle increase from 200 years to 100 years before the present, the slope of the line changes dramatically at 100 years before the present, and the line appears to rise exponentially, suggesting a marked increase in the carbon dioxide concentration. (F) is wrong because the graph depicts a straight line, suggesting a steady increase in concentration. (H) is wrong because the graph shows a decrease in concentration. (J) is wrong because the graph shows an increase in concentration, followed by a leveling off.
5. **(D) Science/Conflicting Viewpoints/Analysis.** According to Scientist 2, solar energy output and surface temperature have both increased since the last ice age, implying that both solar energy output and surface temperature were lower at the end of the last ice age than they are today, (D).
6. **(G) Science/Conflicting Viewpoints/Application.** Scientist 1 states that greenhouse gases trap heat emitted from Earth’s surface. Therefore, if an ozone increase contributes to global warming, Scientist 1 would likely theorize that it is because ozone is a heat trapping or greenhouse gas, (G). (F) is wrong because nothing in Scientist 1’s argument supports a conclusion about chemical reactions. (H) is wrong because it is not supported by Scientist 1’s argument and even assuming that ozone is a major component of the atmosphere, there is nothing in the theory of Scientist 1 to show that it is responsible in any way for global warming. Indeed, a “major gaseous component” could conceivably operate to counteract the effect of greenhouse gases. (J) is wrong because Scientist 1 provides no information about the relationship between molecular mass and the greenhouse effects of a gas.

7. **(D) Science/Conflicting Viewpoints/Analysis.** According to Scientist 2, about 186 billion tons per year of carbon dioxide enters the atmosphere and only 6 billion tons of that are from human activities. Therefore, the amount generated by non-human processes is about $\frac{186-6}{6} = \frac{180}{6} = 30$ times greater than that produced by human activities, (D).

Passage II: The figure accompanying the passage shows a fractionating tower: crude oil is heated by a furnace, and then various substances are captured at different elevations in the tower. Table 1 provides information about the number of carbon atoms in various hydrocarbons. Figure 2 provides a breakdown of three components of samples of crude oil.

8. **(G) Science/Data Representation/Comprehension.** According to Table 1, a hydrocarbon with 14 carbon atoms would be found in the kerosene fraction, (G), since kerosene has 12–16 carbon atoms per molecule.
9. **(C) Science/Data Representation/Comprehension.** According to Table 1, gasoline has 5–12 carbon atoms per molecule and a boiling range of 40–200°C; kerosene has 12–16 carbon atoms per molecule and a boiling range of 200–300°C. Therefore, a mixture of hydrocarbons with 8–14 carbon atoms per molecule would have a boiling range somewhere between the middle of the 40–200°C range and the middle of the 200–300°C range, or approximately 120–250°C. Therefore, (C) is the correct choice.
10. **(F) Science/Data Representation/Comprehension.** According to Table 1, a hydrocarbon with 7 carbon atoms per molecule is gasoline. According to Figure 1, gasoline is collected near the top of the tower, (F).
11. **(D) Science/Data Representation/Analysis.** According to Figure 1, the hydrocarbons with fewer carbon atoms per molecule are collected in the upper portion of the tower; the hydrocarbons with more carbon atoms per molecule are collected in the lower portion of the tower. The named hydrocarbon collected lowest in the tower is lubricating oil. According to Table 1, lubricating oil has 16–24 carbon atoms per molecule, so a hydrocarbon collected as residue would have at least as many carbon atoms as lubricating oil and more. Therefore, (D) is the correct choice: more than 18 carbon atoms per molecule.
12. **(H) Science/Data Representation/Analysis.** The statement says that oils make up the largest proportion of each of the 6 crude oil samples in Figure 2. However, in Figure 2, no single component makes up the largest proportion of each of the 6 crude oil samples. Therefore, the statement is not supported by Figure 2, so eliminate (F) and (G). Next, the statement in (H) is true (oils boiling above 240°C make up the smallest proportion of Sample F), while the statement in (J) is false (gasoline and middle distillates make up less than 30% of Sample A, not more than 70%). Therefore, (H) is the correct choice.

Passage III: In this passage, three studies were performed with circuits that included a power source, a resistor, and a capacitor with voltmeters for measuring voltage. The three tables summarize the results of the three experiments.

13. **(D) Science/Research Summary/Comprehension.** According to Table 1, the same gain was obtained across the capacitor (second column) as across the resistor (third column) for none of the listed frequencies, (D).
14. **(H) Science/Research Summary/Comprehension.** This item requires collation of data from Table 1 (Study 1) and Table 2 (Study 2). At 10^2 Hz, the gains across the capacitor and resistor in Study 1 were 0.85 and 0.53, respectively, and in Study 2, the gains were 0.16 and 0.99, respectively. A change in gain means a change in voltage output, so the measured output across both the capacitor and resistor changed when the resistor was replaced, (H).
15. **(A) Science/Research Summary/Analysis.** In Table 3, the gain across the capacitor varied from 0.16 to 0.00, while the gain across the resistor was a constant 1.00. Therefore, the gain across the resistor was always greater, (A).

16. **(H) Science/Research Summary/Application.** Gain is defined as the ratio of output voltage to input voltage, so a measured output voltage that is greater than the measured input voltage would have a gain of greater than 1.0. None of the data in the three tables reports a gain of greater than 1.0 for any frequency. Therefore, (H) is the correct choice.
17. **(A) Science/Research Summary/Comprehension.** Gain is defined as the ratio of output voltage to input voltage, so $\text{output voltage} = (\text{gain})(\text{input voltage})$. According to Table 2, at 10^6 Hz, the gain across the resistor was 1.00. Therefore, if the input voltage was 1.00 V, the output voltage was $(1.00)(1.00 \text{ V}) = 1.00 \text{ V}$, (A).
18. **(F) Science/Research Summary/Analysis.** According to Table 1, the gain across the resistor increased until a frequency of 10^4 Hz was reached, at which point it stayed constant at 1.0. The lowest gain was 0.06 at 10 Hz, so a gain of 0.05 would correspond to a frequency less than 10 Hz, (F).

Passage IV: In Study 1, household waste was burned under a hood and the emissions were measured and reported in Table 1. In Study 2, the ash resulting from Study 1 was analyzed and concentrations of substances reported in Table 2.

19. **(A) Science/Research Summary/Analysis.** According to Table 1, the measured concentration of mercury in the emissions was 0.002 ppm. Since mercury is a liquid at room temperature, this implies that the temperatures of 400°F to 500°F was sufficient to change some of the mercury in the waste to a gas, (A).
20. **(J) Science/Research Summary/Analysis.** The item stem states that the more toxic a substance, the smaller the concentration at which it is considered hazardous. This implies that the substance that is the most hazardous will have the lowest maximum allowed concentration. According to Table 1, the lowest maximum allowed emission concentration (third column), 0.0000025 ppm, corresponds to dioxin, (J).
21. **(B) Science/Research Summary/Analysis.** There is nothing in the design of the studies to suggest that the original 12 households, or the additional 3 households, were not representative of all households. Therefore, the measured concentrations would have been similar whether the burned waste was from 12 households or 15 households, (B).
22. **(G) Science/Research Summary/Comprehension.** According to Table 1, the measured concentration (second column) was greater than the maximum allowed concentration (third column) for CO, (G): 149.20 ppm is greater than 100 ppm.
23. **(C) Science/Research Summary/Analysis.** According to Table 2, the measured concentrations were less than the established concentration limits for all the tested substances. Therefore, the ash left did not contain hazardous concentrations of any of the tested substances, (C).
24. **(J) Science/Research Summary/Analysis.** According to Table 1, the measured concentration of particulates in the barrel emissions was 343,000 ppm, which was greater than the maximum allowed incinerator emission concentration of 232,000 ppm, thus proving the hypothesis wrong. Therefore, (J) is the correct choice.

Passage V: This passage describes two experiment performed to test Einstein's predictions that (1) light would be deflected by mass, and (2) light's travel time between certain planets would be increased by the Sun's gravity. Table 1 gives the angle by which radio waves and visible light are deflected by the Sun. Table 2 gives the delay in the expected roundtrip travel time of radio waves bounced off the surface of Venus.

25. **(A) Science/Research Summary/Analysis.** Figure 2 shows the approximate positions of Venus (V) relative to the Sun (S) and Earth (E). According to Figure 2, Venus moves through one-quarter of its orbit every 150 days. Since Day 600 is 150 days following Day 450, Venus will have moved through another quarter of its orbit. Therefore, (A) is the correct choice.

26. **(H) Science/Research Summary/Comprehension.** In Table 1, the “±” symbol signifies the uncertainty in a measurement. According to Table 1, at a wavelength of 3.1 cm, the average θ was 1.77 ± 0.20 arcseconds. Therefore, θ was between $1.77 - 0.20 = 1.57$ arcseconds and $1.77 + 0.20 = 1.97$ arcseconds, (H).
27. **(B) Science/Research Summary/Application.** The deflection of the radio waves, as measured by θ , would be greatest when the radio waves have to pass by the Sun. This is true when the Sun is between Venus and Earth, which according to Figure 2 is Day 300, (B).
28. **(F) Science/Research Summary/Application.** If Experiment 2 were to begin at Day 300, then Figure 3 would begin at Day 300, which of course would now be labeled Day 0. (F) correctly matches this transposition of Figure 3, with the delay on Day 0 being equal to approximately 175 microseconds.
29. **(D) Science/Research Summary/Comprehension.** According to Figure 3, the greatest delay occurred on Day 300, when Venus and Earth were on opposite sides of the Sun and the radio waves passed closest to the edge of the Sun both on their way to Venus and on their return to Earth, (D).
30. **(H) Science/Research Summary/Comprehension.** The purpose of the experiments was to test the effect of mass on the light waves. Simply stated, the Sun is the biggest thing around, which means that it is the “most massive body in the solar system,” (H). (F) is wrong because “brightest” does not necessarily mean “most massive.” Moreover, the experiments were not designed to test the effect of “light” on passing light. (G) is wrong because, while this may be true, the signals transmitted in the experiments originated on Earth, not on the Sun. Finally, (J) is wrong because, while observations can be made of stars during a solar eclipse to test the hypothesis, this is not the structure of these experiments.

Passage VI: The passage explains the concept of dissolved oxygen (DO) and describes the effect of different levels of DO on various species of fish. Table 1 contains data on water temperature and DO concentrations at saturation. Figure 1 shows the temperature of river water at different times. Table 1 and Figure 1 can be used together to draw conclusions about DO saturation concentrations at various times using the temperature, and this information is presented in Figure 2. Table 2 provides information about the effect of various DO concentrations on fish.

31. **(B) Science/Data Representation/Comprehension.** According to Table 1, the DO concentration in river water decreases as the water temperature increases. According to Table 2, as DO concentration decreases, the threat to fish increases. Therefore, warmed river water is a potential danger to fish populations because it has a lower DO concentration than does the cooler river water, (B).
32. **(H) Science/Data Representation/Analysis.** According to Figure 1, between 2 a.m. and 7 a.m. the river water temperature remained constant. According to Figure 2, between 2 a.m. and 7 a.m. the DO concentration remained constant. Therefore, (H) is the correct choice.
33. **(D) Science/Data Representation/Analysis.** According to Table 2, fish of many species stop feeding when DO concentration falls below 5 ppm. According to Table 1, DO concentration doesn’t drop below 7.0 ppm until the water has reached 35°C. Therefore, river water at a temperature greater than 35°C would likely have a low enough DO concentration to endanger most fish species living in that water, (D).
34. **(F) Science/Data Representation/Analysis.** According to Table 1, DO concentration decreases as water temperature increases, so eliminate (H) and (J). Now, to choose between (F) and (G), check Table 1 for the DO concentration for water temperature of 0°C: 14.6 ppm. Therefore, (F) is the correct choice.
35. **(C) Science/Data Representation/Comprehension.** According to Figure 1, at 10 p.m., the water temperature was 22°C. According to Figure 2, at 10 p.m., the DO concentration was 9.2 ppm. Therefore, (C) is the correct choice.

Passage VII: This passage defines male-to-female body mass ratio (MFMR) and introduces two terms: monomorphic (species with MFMR = 1) and dimorphic (MFMR \neq 1). The four graphs summarize MFMRs for species in four primate groups.

36. **(G) Science/Data Representation/Comprehension.** According to the upper-left graph (“Apes and humans”), orangutans (O) have an MFMR of 1.4. Therefore, the body mass of the average adult male orangutan is 1.4 times greater than the body mass of the average adult female orangutan, (G).
37. **(C) Science/Data Representation/Analysis.** According to the upper-left graph (“Apes and humans”), chimpanzees have an MFMR of 1.3, so chimpanzees are dimorphic. According to the bottom-right graph (“Prosimians”), aye-ayes have an MFMR of 1.0, so aye-ayes are monomorphic. Therefore, (C) is the correct choice.
38. **(J) Science/Data Representation/Analysis.** The primate group with the largest proportion of monomorphic species will be that graph that has the greatest number of species with an MFMR of 1.0 relative to the total number of species. Calculate the ratio of the number of species with an MFMR of 1.0 to the total number of species for each of the graphs:

(F) Apes: $\frac{4}{12} = \frac{1}{3}$

(G) Old World monkeys: $\frac{5}{52}$

(H) New World monkeys: $\frac{10}{31}$

(J) Prosimians: $\frac{17}{29}$

Therefore, Prosimians have the largest proportion of monomorphic species, (J).

39. **(D) Science/Data Representation/Comprehension.** According to the upper-left graph (“Apes and humans”), gorillas (Go) have the greatest MFMR (1.9), (D).
40. **(F) Science/Data Representation/Comprehension.** The MFMR (male-to-female body mass ratio) is defined as the ratio of male body mass to female body mass: $\frac{\text{male body mass}}{\text{female body mass}}$. The numerator is in units of mass and the denominator is in units of mass, so the units cancel, leaving the ratio with no units, (F).

ACT Form Code 0861D Checklist Instructions

Once students have received their Student Summary report, they can make connections between the report and the specific material that they need to study. The checklist on the following pages should be used in conjunction with the Cambridge student text and teacher’s guide. (Note that the checklist does not appear in the student text; you will need to photocopy and distribute it to your students.)

Referring to the Student Item Analysis portion of their Student Summary reports, students should put an “X” beside those items on the checklist that they answered incorrectly and a “?” by those that they do not fully understand. For correct answers, students should leave the space blank. The descriptions on the checklist tell them what topics to review.

ACT Form Code 0861D Category Checklist

TEST 1: ENGLISH

1. ___ *English/Rhetorical Skills/Style/Clarity of Meaning.*
2. ___ *English/Usage and Mechanics/Sentence Structure/Misplaced Modifiers.*
3. ___ *English/Usage and Mechanics/Sentence Structure/Faulty Parallelism.*
4. ___ *English/Rhetorical Skills/Organization/Sentence-Level Structure.*
5. ___ *English/Rhetorical Skills/Strategy/Appropriate Supporting Material and Effective Transitional Sentence.*
6. ___ *English/Usage and Mechanics/Punctuation/Commas.*
7. ___ *English/Usage and Mechanics/No Change.*
8. ___ *English/Rhetorical Skills/No Change.*
9. ___ *English/Rhetorical Skills/Strategy/Appropriate Supporting Material.*
10. ___ *English/Usage and Mechanics/Punctuation/Apostrophes.*
11. ___ *English/Usage and Mechanics/Sentence Structure/Fragments.*
12. ___ *English/Rhetorical Skills/No Change.*
13. ___ *English/Usage and Mechanics/Punctuation/Apostrophes.*
14. ___ *English/Usage and Mechanics/No Change.*
15. ___ *English/Rhetorical Skills/Strategy/Appropriate Supporting Material.*
16. ___ *English/Usage and Mechanics/Punctuation/Commas.*
17. ___ *English/Usage and Mechanics/Grammar and Usage/Nouns and Noun Clauses.*
18. ___ *English/Rhetorical Skills/Style/Conciseness.*
19. ___ *English/Rhetorical Skills/Organization/Sentence-Level Structure.*
20. ___ *English/Rhetorical Skills/Style/Clarity of Meaning.*
21. ___ *English/Rhetorical Skills/Strategy/Appropriate Supporting Material.*
22. ___ *English/Usage and Mechanics/Grammar and Usage/Verb Tense.*
23. ___ *English/Usage and Mechanics/Grammar and Usage/Pronoun Usage.*
24. ___ *English/Rhetorical Skills/Strategy/Effective Concluding Sentence and Effective Transitional Sentence.*
25. ___ *English/Usage and Mechanics/No Change.*
26. ___ *English/Usage and Mechanics/Grammar and Usage/Diction.*
27. ___ *English/Rhetorical Skills/Strategy/Effective Transitional Sentence.*
28. ___ *English/Usage and Mechanics/Punctuation/Apostrophes.*
29. ___ *English/Usage and Mechanics/Sentence Structure/Comma Splices.*
30. ___ *English/Usage and Mechanics/Grammar and Usage/Diction.*
31. ___ *English/Usage and Mechanics/Grammar and Usage/Diction.*

32. ___ *English/Rhetorical Skills/Strategy/Effective Concluding Sentence.*
33. ___ *English/Rhetorical Skills/Style/Idiomatic Expression.*
34. ___ *English/Usage and Mechanics/Punctuation/Apostrophes.*
35. ___ *English/Usage and Mechanics/No Change.*
36. ___ *English/Usage and Mechanics/Sentence Structure/Fragments.*
37. ___ *English/Rhetorical Skills/Style/Conciseness.*
38. ___ *English/Usage and Mechanics/Punctuation/Semicolons and Commas.*
39. ___ *English/Rhetorical Skills/Style/Conciseness.*
40. ___ *English/Usage and Mechanics/Sentence Structure/Comma Splices.*
41. ___ *English/Usage and Mechanics/Grammar and Usage/Verb Tense.*
42. ___ *English/Usage and Mechanics/Sentence Structure/Fragments.*
43. ___ *English/Rhetorical Skills/Style/Clarity of Meaning.*
44. ___ *English/Usage and Mechanics/No Change.*
45. ___ *English/Rhetorical Skills/No Change.*
46. ___ *English/Usage and Mechanics/No Change.*
47. ___ *English/Usage and Mechanics/Grammar and Usage/Diction and Punctuation/Apostrophes.*
48. ___ *English/Rhetorical Skills/Style/Clarity of Meaning.*
49. ___ *English/Rhetorical Skills/No Change.*
50. ___ *English/Usage and Mechanics/Punctuation/Commas.*
51. ___ *English/Rhetorical Skills/Strategy/Appropriate Supporting Material.*
52. ___ *English/Usage and Mechanics/Grammar and Usage/Pronoun Usage.*
53. ___ *English/Rhetorical Skills/Style/Conciseness.*
54. ___ *English/Usage and Mechanics/Sentence Structure/Problems of Coordination and Subordination.*
55. ___ *English/Rhetorical Skills/No Change.*
56. ___ *English/Rhetorical Skills/Strategy/Appropriate Supporting Material.*
57. ___ *English/Rhetorical Skills/Strategy/Effective Transitional Sentence.*
58. ___ *English/Rhetorical Skills/Style/Clarity of Meaning.*
59. ___ *English/Usage and Mechanics/No Change.*
60. ___ *English/Usage and Mechanics/Sentence Structure/Comma Splices.*
61. ___ *English/Usage and Mechanics/Punctuation/Commas.*
62. ___ *English/Rhetorical Skills/Strategy/Appropriate Supporting Material.*
63. ___ *English/Usage and Mechanics/Sentence Structure/Fragments.*
64. ___ *English/Rhetorical Skills/Strategy/Appropriate Supporting Material.*
65. ___ *English/Usage and Mechanics/Grammar and Usage/Diction.*

66. ___ *English/Usage and Mechanics/Sentence Structure/Run-On Sentence.*
67. ___ *English/Rhetorical Skills/No Change.*
68. ___ *English/Rhetorical Skills/Strategy/Appropriate Supporting Material.*
69. ___ *English/Usage and Mechanics/No Change.*
70. ___ *English/Usage and Mechanics/Sentence Structure/Fragments.*
71. ___ *English/Rhetorical Skills/No Change.*
72. ___ *English/Usage and Mechanics/Grammar and Usage/Pronoun Usage.*
73. ___ *English/Rhetorical Skills/Organization/Sentence-Level Structure.*
74. ___ *English/Rhetorical Skills/Style/Clarity of Meaning.*
75. ___ *English/Rhetorical Skills/Strategy/Appropriate Supporting Material.*

TEST 2: MATHEMATICS

1. ___ *Mathematics/Arithmetic/Simple Manipulations.*
2. ___ *Mathematics/Geometry/Triangles/Properties of Triangles.*
3. ___ *Mathematics/Statistics and Probability/Probability.*
4. ___ *Mathematics/Arithmetic/Common Arithmetic Items/Proportions and Direct-Inverse Variation.*
5. ___ *Mathematics/Arithmetic/Common Arithmetic Items/Percents.*
6. ___ *Mathematics/Arithmetic/Complicated Arithmetic Application Items and Common Arithmetic Items/Proportions and Direct-Inverse Variation.*
7. ___ *Mathematics/Arithmetic/Simple Manipulations and Algebra/Manipulating Algebraic Expressions/Manipulating Expressions Involving Exponents.*
8. ___ *Mathematics/Algebra/Solving Algebraic Equations or Inequalities with One Variable/Simple Equations.*
9. ___ *Mathematics/Algebra/Expressing and Evaluating Algebraic Functions/Functions as Models and Arithmetic/Common Arithmetic Items/Proportions and Direct-Inverse Variation.*
10. ___ *Mathematics/Algebra/Manipulating Algebraic Expressions/Basic Algebraic Manipulations.*
11. ___ *Mathematics/Algebra/Manipulating Algebraic Expressions/Creating Algebraic Expressions.*
12. ___ *Mathematics/Algebra/Expressing and Evaluating Algebraic Functions/Function Notation.*
13. ___ *Mathematics/Geometry/Triangles/Properties of Triangles.*
14. ___ *Mathematics/Algebra/Solving Algebraic Equations or Inequalities with One Variable/Simple Equations.*
15. ___ *Mathematics/Algebra/Manipulating Algebraic Expressions/Basic Algebraic Manipulations.*
16. ___ *Mathematics/Algebra/Manipulating Algebraic Expressions/Evaluating Expressions.*
17. ___ *Mathematics/Geometry/Triangles/Properties of Triangles.*
18. ___ *Mathematics/Geometry/Circles and Triangles/Properties of Triangles.*
19. ___ *Mathematics/Algebra/Solving Quadratic Equations.*
20. ___ *Mathematics/Algebra/Expressing and Evaluating Algebraic Functions/Functions as Models and Manipulating Algebraic Expressions/Evaluating Expressions.*

21. ___ *Mathematics/Algebra/Solving Simultaneous Equations.*
22. ___ *Mathematics/Trigonometry/Definitions of the Six Trigonometric Functions.*
23. ___ *Mathematics/Geometry.*
24. ___ *Mathematics/Arithmetic/Simple Manipulations.*
25. ___ *Mathematics/Geometry/Circles.*
26. ___ *Mathematics/Algebra/Evaluating Sequences Involving Exponential Growth.*
27. ___ *Mathematics/Algebra/Manipulating Algebraic Expressions/Manipulating Expressions Involving Exponents.*
28. ___ *Mathematics/Geometry/Rectangles and Squares and Arithmetic/Complicated Arithmetic Application Items.*
29. ___ *Mathematics/Coordinate Geometry/Distance Formula and Geometry/Complex Figures and Rectangles and Squares and Triangles/Properties of Triangles.*
30. ___ *Mathematics/Geometry/Lines and Angles and Algebra/Manipulating Algebraic Expressions/Creating Algebraic Expressions.*
31. ___ *Mathematics/Coordinate Geometry/Slope-Intercept Form of a Linear Equation and Slope of a Line.*
32. ___ *Mathematics/Algebra/Solving Algebraic Equations or Inequalities with One Variable/Simple Inequalities and Manipulating Algebraic Expressions/Creating Algebraic Expressions and Arithmetic/Complicated Arithmetic Application Items.*
33. ___ *Mathematics/Coordinate Geometry/Slope-Intercept Form of a Linear Equation.*
34. ___ *Mathematics/Algebra/Expressing and Evaluating Algebraic Functions/Concepts of Domain and Range and Solving Quadratic Equations.*
35. ___ *Mathematics/Arithmetic/Common Arithmetic Items/Properties of Numbers.*
36. ___ *Mathematics/Coordinate Geometry/Distance Formula and Triangles/Pythagorean Theorem.*
37. ___ *Mathematics/Geometry/Lines and Angles.*
38. ___ *Mathematics/Arithmetic/Common Arithmetic Items/Ratios and Algebra/Manipulating Algebraic Expressions/Manipulating Expressions Involving Exponents.*
39. ___ *Mathematics/Statistics and Probability/Data Representation/Tables (Matrices) and Averages and Algebra/Manipulating Algebraic Expressions/Creating Algebraic Expressions.*
40. ___ *Mathematics/Statistics and Probability/Data Representation/Tables (Matrices) and Arithmetic/Common Arithmetic Items/Percents.*
41. ___ *Mathematics/Statistics and Probability/Data Representation/Tables (Matrices) and Averages.*
42. ___ *Mathematics/Arithmetic/Common Arithmetic Items/Properties of Numbers.*
43. ___ *Mathematics/Arithmetic/Simple Manipulations.*
44. ___ *Mathematics/Coordinate Geometry/The Coordinate System.*
45. ___ *Mathematics/Coordinate Geometry/Graphs of Quadratic Equations.*
46. ___ *Mathematics/Geometry/Circles.*
47. ___ *Mathematics/Algebra/Solving Algebraic Equations or Inequalities with One Variable/Equations Involving Integer and Rational Exponents.*
48. ___ *Mathematics/Geometry/Complex Figures and Circles.*

49. ___ *Mathematics/Trigonometry/Definitions of the Six Trigonometric Functions.*
50. ___ *Mathematics/Algebra/Solving Algebraic Equations or Inequalities with One Variable/Inequalities Involving Absolute Value.*
51. ___ *Mathematics/Geometry/Lines and Angles.*
52. ___ *Mathematics/Algebra/Manipulating Algebraic Expressions/Evaluating Expressions.*
53. ___ *Mathematics/Coordinate Geometry/Qualitative Behavior of Graphs of Functions.*
54. ___ *Mathematics/Geometry and Arithmetic/Common Arithmetic Items/Ratios and Algebra/Manipulating Algebraic Expressions/Manipulating Expressions Involving Exponents.*
55. ___ *Mathematics/Algebra/Solving Quadratic Equations.*
56. ___ *Mathematics/Arithmetic/Common Arithmetic Items/Properties of Numbers.*
57. ___ *Mathematics/Geometry/Rectangles and Squares.*
58. ___ *Mathematics/Trigonometry/Determining Trigonometric Values and Triangles/30°-60°-90° Triangles.*
59. ___ *Mathematics/Trigonometry and Coordinate Geometry/Transformations and Their Effects on Graphs of Functions.*
60. ___ *Mathematics/Coordinate Geometry/The Coordinate System.*

TEST 3: READING

1. ___ *Reading/Prose Fiction/Main Idea.*
2. ___ *Reading/Prose Fiction/Implied Idea.*
3. ___ *Reading/Prose Fiction/Explicit Detail.*
4. ___ *Reading/Prose Fiction/Implied Idea.*
5. ___ *Reading/Prose Fiction/Development.*
6. ___ *Reading/Prose Fiction/Implied Idea.*
7. ___ *Reading/Prose Fiction/Development.*
8. ___ *Reading/Prose Fiction/Implied Idea.*
9. ___ *Reading/Prose Fiction/Vocabulary.*
10. ___ *Reading/Prose Fiction/Implied Idea.*
11. ___ *Reading/Social Science/Explicit Detail.*
12. ___ *Reading/Social Science/Application.*
13. ___ *Reading/Social Science/Vocabulary and Development.*
14. ___ *Reading/Social Science/Explicit Detail.*
15. ___ *Reading/Social Science/Main Idea.*
16. ___ *Reading/Social Science/Explicit Detail.*
17. ___ *Reading/Social Science/Implied Idea.*
18. ___ *Reading/Social Science/Explicit Detail.*

19. ___ *Reading/Social Science/Explicit Detail.*
20. ___ *Reading/Social Science/Explicit Detail.*
21. ___ *Reading/Humanities/Main Idea.*
22. ___ *Reading/Humanities/Voice.*
23. ___ *Reading/Humanities/Implied Idea.*
24. ___ *Reading/Humanities/Vocabulary.*
25. ___ *Reading/Humanities/Explicit Detail.*
26. ___ *Reading/Humanities/Implied Idea.*
27. ___ *Reading/Humanities/Implied Idea.*
28. ___ *Reading/Humanities/Implied Idea and Development.*
29. ___ *Reading/Humanities/Voice.*
30. ___ *Reading/Humanities/Explicit Detail.*
31. ___ *Reading/Natural Science/Development.*
32. ___ *Reading/Natural Science/Main Idea.*
33. ___ *Reading/Natural Science/Vocabulary.*
34. ___ *Reading/Natural Science/Explicit Detail.*
35. ___ *Reading/Natural Science/Development.*
36. ___ *Reading/Natural Science/Development.*
37. ___ *Reading/Natural Science/Application.*
38. ___ *Reading/Natural Science/Explicit Detail.*
39. ___ *Reading/Natural Science/Explicit Detail.*
40. ___ *Reading/Natural Science/Vocabulary.*

TEST 4: SCIENCE

1. ___ *Science/Conflicting Viewpoints/Comprehension.*
2. ___ *Science/Conflicting Viewpoints/Analysis.*
3. ___ *Science/Conflicting Viewpoints/Analysis.*
4. ___ *Science/Conflicting Viewpoints/Analysis.*
5. ___ *Science/Conflicting Viewpoints/Analysis.*
6. ___ *Science/Conflicting Viewpoints/Application.*
7. ___ *Science/Conflicting Viewpoints/Analysis.*
8. ___ *Science/Data Representation/Comprehension.*
9. ___ *Science/Data Representation/Comprehension.*
10. ___ *Science/Data Representation/Comprehension.*

11. ___ *Science/Data Representation/Analysis.*
12. ___ *Science/Data Representation/Analysis.*
13. ___ *Science/Research Summary/Comprehension.*
14. ___ *Science/Research Summary/Comprehension.*
15. ___ *Science/Research Summary/Analysis.*
16. ___ *Science/Research Summary/Application.*
17. ___ *Science/Research Summary/Comprehension.*
18. ___ *Science/Research Summary/Analysis.*
19. ___ *Science/Research Summary/Analysis.*
20. ___ *Science/Research Summary/Analysis.*
21. ___ *Science/Research Summary/Analysis.*
22. ___ *Science/Research Summary/Comprehension.*
23. ___ *Science/Research Summary/Analysis.*
24. ___ *Science/Research Summary/Analysis.*
25. ___ *Science/Research Summary/Analysis.*
26. ___ *Science/Research Summary/Comprehension.*
27. ___ *Science/Research Summary/Application.*
28. ___ *Science/Research Summary/Application.*
29. ___ *Science/Research Summary/Comprehension.*
30. ___ *Science/Research Summary/Comprehension.*
31. ___ *Science/Data Representation/Comprehension.*
32. ___ *Science/Data Representation/Analysis.*
33. ___ *Science/Data Representation/Analysis.*
34. ___ *Science/Data Representation/Analysis.*
35. ___ *Science/Data Representation/Comprehension.*
36. ___ *Science/Data Representation/Comprehension.*
37. ___ *Science/Data Representation/Analysis.*
38. ___ *Science/Data Representation/Analysis.*
39. ___ *Science/Data Representation/Comprehension.*
40. ___ *Science/Data Representation/Comprehension.*