#### PART 2

# CRITICAL ANALYSIS AND REASONING SKILLS



What Is Tested in Critical Analysis and Reasoning Skills
How the Section Is Scored
Preparing for the Critical Analysis and Reasoning Skills Section
Practicing Critical Analysis and Reasoning Skills
Critical Analysis and Reasoning Skills Minitest

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#### Read This Part to Learn About

- What Is Tested in Critical Analysis and Reasoning Skills
- > How the Section Is Scored
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- Practicing Critical Analysis and Reasoning Skills

#### WHAT IS TESTED IN CRITICAL ANALYSIS AND **REASONING SKILLS**

In contrast to the sections on Physical and Biological Sciences, the Critical Analysis and Reasoning Skills section of the MCAT does not test specific knowledge. Instead, it assesses your ability to comprehend, evaluate, apply, and synthesize information from an unfamiliar written text. Its format is familiar to anyone who has attended school in the United States. Most reading comprehension tests look just like it.

The MCAT Critical Analysis and Reasoning Skills section consists of 5 or 6 passages of about 500 to 600 words, each of which is followed by a set of multiple-choice questions. There are 60 questions in all. The passages are nonfiction and may be on topics from the humanities, from social sciences, or from those areas of the natural sciences that are not routinely tested elsewhere in the exam. The expectation is that you are not familiar with the content of a given passage, or that if you are familiar with it, you are not an expert.

PART 2: Critical Analysis and Reasoning Skills For this reason, it is not possible to **study** for the Critical Analysis and Reasoning Skills section of the MCAT. That being said, however, there are some things you may do to **prepare** for it.

#### **HOW THE SECTION IS SCORED**

Each section on the exam is scored between a minimum of 118 to a maximum of 132, with a midpoint of 125. The scores from each section are combined to create a total score which ranges from 472 to 528, with a midpoint of 500.

## PREPARING FOR THE CRITICAL ANALYSIS AND REASONING SKILLS SECTION

By this stage in your educational career, you should have a pretty good sense of your test-taking skills. If you have achieved solid scores on reading comprehension tests in the past, the MCAT Critical Analysis and Reasoning Skills section should be no problem at all. If your comprehension skills are not quite as good as they should be, if you freeze when faced with difficult reading passages, if you read very slowly, or if English is not your first language, you should take the time to work through this section of the book.

#### Read

The best way to learn to read better is to read more. If you read only materials in your chosen discipline, you are limiting yourself in a way that may show up on your MCAT score. Reading broadly in subject areas that do not, at first glance, hold much appeal for you trains you to focus your attention on what you are reading. Pick up a journal in a field you are not familiar with. Read an article. Summarize the key ideas. Decide whether the author's argument makes sense to you. Think about where the author might go next with his or her argument. Finally, consider how the content of the article relates to your life or to the lives of people you know.

All of this sounds like a chore, but it is the key to making yourself read actively. An active reader interacts with a text rather than bouncing off it. Success on the MCAT Critical Analysis and Reasoning Skills section requires active reading.

You can use any of the following strategies to focus your attention on your reading. You may use many of them already, quite automatically. Others may be just what you need to shift your reading comprehension into high gear.

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#### ACTIVE READING STRATEGIES

- **Monitor your understanding.** When faced with a difficult text, it's all too easy to zone out and skip through challenging passages. You do not have that luxury when the text you are reading is only 500 words long and is followed by 8 questions that require your understanding. Pay attention to how you are feeling about a text. Are you getting the author's main points? Is there something that makes little or no sense? Are there words that you do not know? Figuring out what makes a passage hard for you is the first step toward correcting the problem. Once you figure it out, you can use one of the following strategies to improve your connection to the text.
- Predict. Your ability to make predictions is surprisingly important to your ability to read well. If a passage is well organized, you should be able to read the introductory paragraph and have a pretty good sense of where the author is going with the text. Practice this one starting with newspaper articles, where the main ideas are supposed to appear in the first paragraph. Move on to more difficult reading. See whether your expectation of a text holds up through the reading of the text. Making predictions about what you are about to read is an immediate way to engage with the text and keep you engaged throughout your reading.
- Ask questions. Keep a running dialogue with yourself as you read. You don't have to stop reading; just pause to consider, "What does this mean? Why did the author use this word? Where is he or she going with this argument? Why is this important?" This becomes second nature after a while. When you become acclimated to asking yourself questions as you read a test passage, you may discover that some of the questions you asked appear in different forms on the test itself.
- > Summarize. You do this when you take notes in class or when you prepare an outline as you study for an exam. Try doing it as you read unfamiliar materials, but do it in your head. At the end of a particularly dense paragraph, try to reduce the author's verbiage to a single, cogent sentence that states the main idea. At the end of a longer passage, see whether you can restate the theme or message in a phrase or two.
- **Connect.** Every piece of writing is a communication between the author and the reader. You connect to a text first by bringing your prior knowledge to that text and last by applying what you learn from the text to some area of your life. Even if you know nothing at all about architecture or archaeology, your lifetime of experience in the world carries a lot of weight as you read an article about those topics. Connecting to a text can lead to "Aha!" moments as you say to yourself, "I knew that!" or even, "I never knew that!" If you barrel through a text passively, you do not give yourself time to connect. You might as well tape the passage and play it under your pillow as you sleep.

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#### **Pace Yourself**

The Critical Analysis and Reasoning Skills section is timed. If you are a slow reader, you are at a decided disadvantage. You have 90 minutes to read 5 or 6 passages and answer 60 questions. That gives you about 10 minutes for each passage and question set. It would be a shame to lose points because you failed to complete a passage or two.

Studies have shown that people read 25 percent slower onscreen than they normally read. Because the MCAT is entirely computer-based, you may benefit from practicing reading longer passages onscreen. Try visiting http://www.bartleby.com/. This website, which bills itself as "Great Books Online," contains a number of long classic works to be read onscreen. You can find fiction and nonfiction of all sorts with which to practice your onscreen reading skills.

You do not need to speed-read to perform well on the Critical Analysis and Reasoning Skills section, but you might benefit from some pointers that speedreaders use.

#### SPEED-READING STRATEGIES

- ➤ Avoid subvocalizing. It's unlikely that you move your lips while you read, but you may find yourself "saying" the text in your head. This slows you down significantly, because you are slowing down to speech speed instead of revving up to reading speed. You do not need to "say" the words; the connection between your eyes and your brain is perfectly able to bypass that step.
- ➤ Don't regress. If you don't understand something, you may run your eyes back and forth and back and forth over it. Speed-readers know this as "regression," and it's a big drag on reading speed. It's better to read once all the way through and then reread a section that caused you confusion.
- ➤ **Bundle ideas.** Read phrases rather than words. Remember, you are being tested on overall meaning, which is not derived from single words but rather from phrases, sentences, and paragraphs. If you read word by word, your eyes stop constantly, and that slows you down. Read bundles of meaning, and your eyes flow over the page, improving both reading speed and comprehension.

#### **Preview**

When it comes to taking tests, knowing what to expect is half the battle. The MCAT's Critical Analysis and Reasoning Skills section assesses a variety of reading skills, from the most basic comprehension skills to the higher-level application and synthesis skills. Here is a breakdown of skills you should expect to see tested.

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#### FOUR KINDS OF QUESTIONS

**Comprehension.** These questions look at the author's main idea and support for his or her hypothesis. Expect questions on Finding the Main Idea, Locating Supporting Details or Evidence, Choosing Accurate Summaries or Paraphrases, Comparing and Contrasting, Interpreting Vocabulary, Identifying Hypotheses, and Asking Clarifying Questions.

#### SAMPLE QUESTION STEMS

*In the context of the passage, the word* X *means* . . . The main argument of the passage is . . . The central thesis of the passage is . . . The discussion of X shows primarily that . . . According to the passage, all of these are true EXCEPT...

**Evaluation.** These questions deal with your understanding of the author's assumptions and viewpoints. Expect questions on Analyzing an Argument; Judging Credibility; Assessing Evidence; and Distinguishing Among Fact, Opinion, and Unsupported Assertions.

#### SAMPLE QUESTION STEMS

Which of the following statements is NOT presented as evidence . . . The passage suggests that the author would most likely believe . . . Which of the following assertions does the author support . . . The author's claim that X is supported by . . .

**Application.** These questions deal with the purpose and structure of the passage and may require you to apply concepts or hypotheses to real-life situations. Expect questions on Making Predictions, Solving Problems, Identifying Cause and Effect, Drawing Conclusions, and Making Generalizations.

#### SAMPLE QUESTION STEMS

According to the passage, why . . . The passage implies that . . . Based on the information in the passage, which of these outcomes . . . The passage suggests that . . . According to the passage, X would best be described as . . .

**Incorporation of information.** These questions present some new information and ask you how it might affect your understanding of ideas in the passage. You may be asked if the new information supports the ideas in the passage, or if it contradicts them. You may also be asked about possible analogies between

PART 2: Critical Analysis and Reasoning Skills the new information and ideas in the passage. Expect questions on Combining Information, Applying New Evidence, and Modifying Conclusions.

#### **SAMPLE QUESTION STEMS**

Which of the following is MOST analogous to ...
Which of the following would most CHALLENGE the claim that ...
How does this new information SUPPORT the idea that ...

Because the format of the test is a familiar one, you may not need to preview the format itself. However, you may benefit from these tips on taking reading comprehension tests.

#### **Test-Taking Tips for Verbal Reasoning**

- 1. **Preview** the passage. Read the first paragraph. Skim the passage.
- 2. **Skim** the question stems (the part of each question that does not include the answer choices). This gives you a quick idea of what to look for as you read.
- 3. **Read** the passage using your active reading strategies.
- 4. **Answer** the questions. Questions on the Critical Analysis and Reasoning Skills section of the MCAT move from easiest to hardest within a question set, so answering them in order makes sense. However, if you are stumped on a given question, skip ahead and come back later.

## PRACTICING CRITICAL ANALYSIS AND REASONING SKILLS

It is certainly true that the more you practice reading comprehension, the better you are likely to perform on the MCAT. Here are 10 practice passages followed by question sets and explanatory answers. Follow along and see how well your comprehension compares with the answers given. Remember that the easier questions come first in a question set. Notice whether you have trouble with those more basic questions or with the higher-level questions that follow. Try to use your active reading strategies as you read each passage. Can you make it through each passage and question set in 10 minutes or so?

#### SAMPLE PASSAGE I: SOCIAL SCIENCES

Fifty years ago, only New Yorkers lived in what is now termed a "megacity," an agglomeration of more than 10 million people living and working in an urban environment. In contrast, today there are more than 40 megacities, most in less developed countries, and more urban centers are expected to explode in population by the year 2020. Demographers and globalization experts are already referring to the 21st century as "the urban century."

Already, more people on our Earth live in cities than live in rural areas. This is an enormous change in population trends, and it skews the entire planet in ways we haven't begun to analyze.

Although some cities have seen immigration expand their borders, for most megacities, it is migration from within the country that has caused the city to grow. An example is China, where some 150 million rural inhabitants have migrated to cities in just the last ten years. In many cases, the cities house the only possibilities of employment in this global economy. That is what has grown Mumbai (Bombay), India, from a large city to a megacity of more than 18 million people in just a few years. It's the cause of the explosion of populations in Lagos, Nigeria; Karachi, Pakistan; Dhaka, Bangladesh; and Jakarta, Indonesia.

Whereas just a few years ago, most large cities were in developed nations, now the largest are suddenly in the less-developed countries of South America, Africa, and Asia. Imagine the pressure on the infrastructure of these already poor cities as the influx of workers pushes services to the breaking point. Slums and shantytowns spring up around the outskirts of the cities, and government is powerless to affect the disadvantaged workers, leaving them exposed to corrupt local officials or urban gangs. Imagine, too, what happens in the rural areas that these people have abandoned. China faces a desperate shortage of agricultural labor. So do other areas of Asia and Africa.

According to UN statistics, by the year 2030, more than 60 percent of the world population will be urban, up from 30 percent in 1950. Unlike the population growth in developed nations, the birth rate in less-developed nations is high, meaning that the cities continue to grow even as migration slows from the rural areas. Megacities such as New York have populations that have leveled off over time. Despite its location in a less-developed nation, even a megacity such as Mexico City has a slow rate of growth compared to Asian and African cities such as Mumbai or Lagos.

It is difficult to imagine what the growth of the megacities will mean to the world in the 21st century. Demographers foresee ecological overload, homelessness, uncontrolled traffic, and an infrastructure strained to the breaking point. Despite the notion that industrial jobs improve the lot of the workers, it is already possible to see that megacities are creating a new, even deeper division between rich and poor, as the poor concentrate in the outskirts of town and the rich barricade themselves behind walls and in towers.

- 1. The main argument of the passage is that:
  - **A.** megacities are more often found in less-developed nations but strain the resources of developed nations.
  - **B.** the growth in population and number of megacities means foreseeable changes, many of them negative.
  - **C.** the movement of population bases from rural to urban locations decimates the countryside and limits our ability to grow food.
  - **D.** we must begin to fight back against the growth of megacities in the less-developed nations of the world.

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- 2. The passage suggests that demographers:
  - A. have not been able to keep pace with the growth of cities.
  - B. focus primarily on population trends in the developing world.
  - **C.** are observing the growth of the world's cities with concern.
  - **D.** work hand in hand with the UN to plan for the future.
- 3. The author's use of UN statistics helps:
  - A. strengthen her argument that urbanization is radically changing the world.
  - **B.** contradict demographers' claims about megacities and their effects.
  - **C.** indicate that the results of urbanization include poverty and crime.
  - **D.** complement her assertion that birth rate is the main reason for urban growth.
- 4. According to this passage, why might skyscrapers be a sign of divisiveness?
  - A. They cost too much to build.
  - **B.** They are found only in developed nations.
  - C. They separate rich from poor.
  - **D.** They house businesses, not people.
- 5. Which new information, if true, might CHALLENGE the author's contention that cities will continue to grow despite a slowing of migration from the countryside?
  - **A.** Scientists are creating new strains of rice and wheat that require far less in the way of hands-on care.
  - **B.** The number of people living below the poverty level will climb in less-developed and developed nations.
  - **C.** Inflationary trends in heating oil and gasoline prices will limit most people's discretionary spending.
  - **D.** New methods of birth control will limit the population explosion in the developing world.

#### SAMPLE PASSAGE I: ANSWERS AND EXPLANATIONS

1. The correct answer is B. This is a Comprehension question on Finding the Main Idea. This kind of question does not require you to go beyond the boundaries of the passage. You should think, "What is the author trying to say?" In fact, the author never says choice A at all. Although the point is made that megacities are more often found in less-developed nations, the second half of that statement does not appear in the passage. Nor does the author discuss decimation of the countryside and limitations in our ability to grow food, as choice C would indicate. And although you might infer choice D, the author never makes any such assertion. The best answer, the one that best conforms simply to the words on the page, is choice B.

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- 2. The correct answer is C. This Comprehension question has to do with Supporting Details and Evidence. You can answer it easily if you scan the passage for the word *demographer* and then see what information is directly presented. In paragraph 1, demographers "are referring to the 21st century as 'the urban century." In paragraph 6, "demographers foresee ecological overload, homelessness, uncontrolled traffic, infrastructure strained to the breaking point." Based on your quick scan of the passage, there is no evidence to support choices A, B, or D. The answer is clearly choice C.
- 3. The correct answer is A. This Evaluation question requires you to Analyze an **Argument.** Ouestions like this ask you to explain why an author included certain information. Scan the essay to locate the reference to UN statistics and you see that those statistics tell us, "by the year 2030, more than 60 percent of the world population will be urban, up from 30 percent in 1950." In other words, there has been a dramatic change in the look of the world, thanks to urbanization. This correlates to choice A. It does not contradict demographers' claims (choice B), nor does it say anything about poverty, crime, or birth rate (choices C and D). Notice that this kind of question asks you to think "outside" the passage a bit more than **Comprehension** questions 1 and 2 did.
- 4. The correct answer is C. This Application question looks at Cause and Effect, not as directly presented in the essay, but rather as implied by the essay. In fact, you may have been alarmed to see that the word *skyscraper* never appears in the passage at all, so scanning the passage does not help. Remember that questions get harder within a question set. This question, the fourth one in the set, is harder than the first three.

The clue to the answer is in the last line of the essay. "Megacities," the author claims, "are creating a new, even deeper division between rich and poor, as the poor concentrate in the outskirts of town and the rich barricade themselves behind walls and in towers." Those "towers" are the high-rise apartment buildings in which the rich dwell, whereas the poor live in shanties on the cities' outskirts. The only answer supported by the text is choice C.

5. The correct answer is D. This Incorporation of Information question asks you to Apply New Evidence to an existing argument. This kind of question takes you furthest from the passage itself, in an effort to get you to recognize its real-world applications. You might begin by scanning to locate the part of the passage that deals with the contention mentioned: that cities will continue to grow despite a slowing of migration from the countryside. It appears in paragraph 5, and its causative link is the notion that "the birth rate in less-developed nations is high." If you take away this cause, as choice D would do, then the author's supposition that cities will continue to grow has no foundation. None of the other answer choices would collapse her argument, as well.

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#### **SAMPLE PASSAGE II: HUMANITIES**

Muralism has long been a Mexican tradition, perhaps dating back to the Aztecs, who recorded their history on the walls of their pyramids. The covering of a white wall with political art made the careers of David Alfara Siqueiros, Jose Clemente Orozco, and the best-known of them all, Diego Rivera.

Siqueiros, born in Chihuahua, studied art from an early age. He organized a student strike at the age of 15 and later worked to unseat the Mexican dictator Huerta, attaining the rank of captain during the revolution that was taking place. He later brought his tactical knowledge to the world of organized labor, where his activism led to lengthy jail terms. That is where he created some of his finest artworks on canvas. During the 1930s, he went to Spain to join the anti-fascist forces. His life was that of a soldier–artist, and some considered him a dangerous, subversive gangster.

Orozco, too, studied art as a youth and was inspired by the Mexican Revolution. One of his famous murals depicts the Holy Trinity as a worker, a soldier, and a peasant. Later he turned his focus to the dehumanizing effect of large cities on the people who live there. When he wasn't painting vast murals, Orozco was drawing political cartoons.

Rivera, the third of these Mexican Social Realists, *los tres grandes*, remains the most famous through sheer force of personality. His storytelling, his love affairs, his radicalism, and his love—hate relationship with the land of his birth informed his life and his paintings. He incorporated Mexican folklore and cultural icons into his murals in an effort to educate working people in their own history.

In the Chicano neighborhoods of the southwestern United States, political muralism still explodes onto bare walls in the form of graffiti. Edward Seymour's 1949 invention of canned spray paint provided would-be artists with an easy mode of expression, and the graffiti mural took off as an art form in the 1960s and 1970s. It began as outlaw art, which surely would have appealed to an outlaw such as Siqueiros. Despite the new artists' lack of formal training, some members of the outlaw group managed to create something beautiful while making political statements about poverty, injustice, diversity, and racism.

One extraordinary thing about this kind of public art is that it is truly for everyone. You do not need to enter the halls of a museum to see it; it resides on the walls of your local bodega or school or health clinic; you bounce your ball off of it in the basketball or handball court; you cover it over with posters for your favorite band or flyers about your lost pet.

Certainly, many of the graffiti artists were reviled as nuisances, and their art was erased. For some, however, graffiti would prove a launching point into the world of fine art. Today, modern murals in Austin, San Antonio, Los Angeles, and Tucson, among others, attest to the power of the Mexican tradition of the muralist as purveyor of political thought.

- 6. In the context of the passage, the word *radicalism* means:
  - A. extremism
  - B. intolerance
  - C. discrimination
  - D. fanaticism
- 7. The author probably mentions Orozco's political cartoons as a way of illustrating:
  - A. the lack of seriousness in Orozco's art
  - B. how multitalented Orozco was
  - C. Orozco's intertwining of politics and art
  - D. why Orozco's work fell out of favor
- 8. The author's claim that Siqueiros might approve of Chicano graffiti is supported by:
  - A. details about Siqueiros's role in the Spanish Civil War
  - B. the description of Siqueiros as an army captain
  - C. the fact that Siqueiros moved from Mexico to Spain
  - D. information about Siqueiros's gangster past
- 9. According to this passage, graffiti would BEST be described as:
  - A. an attractive way of making a political statement
  - B. a pale imitation of the Mexican muralists' work
  - C. a nuisance that must be tolerated by urbanites
  - D. a way to educate the masses in their own history
- 10. In 1933, Diego Rivera was dismissed from his job painting a mural for Rockefeller Center and charged with willful propagandizing for including a portrait of Lenin in the center. How does this anecdote affect the author's contention that Rivera's goal was to educate the workers in their own history?
  - A. It refutes it.
  - **B.** It supports it.
  - **C.** It supports the claim only if you believe that propaganda is educational.
  - **D.** It refutes the claim only if you believe that Communism is part of Mexican history.

#### SAMPLE PASSAGE II: ANSWERS AND EXPLANATIONS

6. **The correct answer is A.** This **Comprehension** question has to do with **Interpreting Vocabulary**. The first thing to do is to scan the passage and search for the word **radicalism**. It appears in paragraph 4, in the context of qualities that informed Rivera's artwork. It is not used in a negative connotation, as choices B and C would indicate. Choice D is almost right, but again, it has a more negative connotation than the passage implies. Therefore, choice A is the best answer.

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- 7. **The correct answer is C.** This **Evaluation** question asks you to **Analyze an Argument**. Authors rarely include information without a reason, and the MCAT often asks you to identify and assess the reasons behind the inclusion of a passage or phrase. Here, Orozco's art is discussed in its relation to politics, from his Trinity of workers to his political cartoons. Although choice B might be correct in a different context, choice C is the better answer.
- 8. **The correct answer is D.** This **Evaluation** question requires you to **Assess Evidence**. Ideally, a writer does not include a statement without adequate support. Here, the statement is that Siqueiros might approve of Chicano graffiti. If you scan to find the exact reference in paragraph 5, you see that the author states, "It began as outlaw art, which surely would have appealed to an outlaw such as Siqueiros." That is a clear giveaway that choice D is the best response; Chicano art was outlaw art, and Siqueiros was considered by many to be an outlaw, or gangster.
- 9. **The correct answer is A.** This **Application** question calls for **Making Generalizations** about a topic—in this case, graffiti. To do this correctly, you must put together the author's statements about the topic and draw a conclusion from the information you are given.

Paragraphs on graffiti appear at the end of the passage. Although the author refers to it as "outlaw art" and mentions that some people considered it a nuisance, that is clearly not the author's own impression. Phrases such as "managed to create something beautiful while making political statements about poverty, injustice, diversity, and racism" and "public art . . . that . . . is truly for everyone" put a positive spin on the topic. The author does not believe that graffiti is a "pale imitation" (choice B); instead, she indicates that the graffiti artists are following in the muralists' tradition. Choice D appears as a description of Rivera's work and is not relevant to this discussion of graffiti. That makes choice A the most logical answer.

10. **The correct answer is B.** This **Incorporation of Information** question asks you to **Apply New Evidence** to an existing argument. It also requires you to have in your repertoire some background information that is not found in the passage itself. The inclusion of Lenin in a mural would tend to support the notion that Rivera's intention was to educate the workers, primarily because a large part of Lenin's philosophy has to do with the aims and needs of the working class. You do not need to believe that propaganda is educational (choice C) to understand the connection of Lenin to workers. Believing that Communism is a part of Mexican history would serve to support the claim, not to refute it (choice D). The best answer is choice B.

#### SAMPLE PASSAGE III: NATURAL SCIENCES

For years, anecdotal evidence from around the world indicated that amphibians were under siege. Finally, proof of this hypothesis is available, thanks to the concerted, Internet-based effort of scientists involved with the Global Amphibian Assessment.

Amphibians have a unique vulnerability to environmental changes thanks to their permeable skin and their need of specific habitats to allow their metamorphosis from larva to adult. Studies indicate that they are at risk due to global climactic change, reduction in the ozone layer leading to an increased exposure to ultraviolet rays, interference with migratory pathways, drainage of wetlands, pollution by pesticides, erosion and sedimentation, and exposure to unknown pathogens thanks to the introduction of non-native species. In other words, human progress is responsible for the losses this population is suffering.

The permeable skin of frogs, newts, and other amphibians provides easy entry for a variety of pollutants. Increases in ultraviolet radiation appear to have a deadly effect on eggs, causing mortality and deformities in the amphibians studied. Most amphibians need a clear pathway between land and water to complete their life cycle. Road building and swamp drainage for construction have eliminated many of the dispersal routes for amphibians worldwide. The same sensitivity that allows pollution to damage young amphibians makes them susceptible to fungal and other pathogens transmitted from species released by pet owners. One emerging infectious disease in particular has led to entire populations being wiped out in Australia and the Americas.

Scientists have long considered amphibians a barometer of environmental health. In areas where amphibians are declining precipitously, environmental degradation is thought to be a major cause. Amphibians are not adaptable. They must have clean water in which to lay their eggs. They must have clean air to breathe after they grow to adulthood. Their "double life" as aquatic and land-dwelling animals means that they are at risk of a double dose of pollutants and other hazards.

The Global Amphibian Assessment concluded that nearly one-third of the world's amphibian species are under immediate threat of extinction. Nearly half of all species are declining in population. The largest numbers of threatened species are in Colombia, Mexico, and Ecuador, but the highest percentages of threatened species are in the Caribbean. In Haiti, for example, nine out of ten species of amphibians are threatened. In Jamaica, it's eight out of ten, and in Puerto Rico, seven out of ten. Of all the species studied around the world, only 1 percent saw any kind of increase in population.

Certainly, this is a disaster for amphibians, but scientists rush to point out that it may be equally a disaster for the rest of us on Earth. Even recent pandemics among

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- 11. The central thesis of the passage is that:
  - A. the extinction of amphibians is due to global warming.
  - **B.** amphibians really are a barometer of environmental health.
  - **C.** only equatorial amphibians are currently under siege.
  - **D.** amphibians' "double life" on land and in water may end up saving them.
- 12. The passage implies that the Global Amphibian Assessment has done science a favor by:
  - A. setting forth a hypothesis that connects the environment to species decline.
  - **B.** eliminating the need to study the connection between extinction and environment.
  - C. refuting a contention that had existed purely through anecdotal evidence.
  - **D.** collecting data to prove something that was previously just a hypothesis.
- 13. Which of the following assertions does the author support with an example?
  - I. The permeable skin of amphibians allows for the entry of pollutants.
  - II. Amphibians are susceptible to unfamiliar pathogens.
  - III. Most threatened species are in the Caribbean.
  - A. I only
  - **B.** III only
  - C. I and II only
  - D. II and III only
- 14. Which of the following predictors is MOST analogous to amphibians as described in the fourth paragraph?
  - A. biomarkers in the blood predicting mental illness
  - $\boldsymbol{B}_{\boldsymbol{\cdot}}$  red sky at night predicting high pressure and dry air
  - C. canaries in a coal mine predicting dangerous gases
  - D. groundhog's shadow predicting longer winter
- 15. According to this passage, the continued degradation of the environment may well lead to:
  - A. global pandemics
  - **B.** floods and droughts
  - C. human deformities
  - D. decline among insects

#### Format DOs and DON'Ts

The MCAT uses a special format for certain questions. It lists three choices headed with Roman numerals I, II, and III and asks you to decide which one—or which combination of two or three—is correct. DON'T assume that the answer will always be a combination. DO use logical thinking to eliminate choices and save time.

Suppose the answers are:

- A. I only
- B. III only
- C. I and II only
- D. II and III only

If you know that I is NOT possible, then you have eliminated choices A and C as answers. If you know that II IS possible, then you are down to choices C and D.

#### SAMPLE PASSAGE III: ANSWERS AND EXPLANATIONS

11. **The correct answer is B.** This **Comprehension** question asks you to **Find the Main Idea**. It may be the most common question you find on MCAT Critical Analysis and Reasoning Skills, and it nearly always appears first in a question set. To find the main idea, you must read actively and summarize as you go. There are no titles on MCAT passages to give away the central thesis; it's up to you as a reader to derive it from the text.

Review the answer choices. The author indicates that choice A is a possibility. Just because this detail is included does not make it the central thesis. Although the major threat is to equatorial amphibians (choice C), it is not true that "only" those species are in danger, nor is that the main idea. There is no support for choice D. The main idea, instead, revolves around choice B. The new study indicates that previous anecdotal evidence was correct: Amphibians really **are** a barometer of environmental health.

12. **The correct answer is D.** This **Application** question requires you to **Draw Conclusions** about an assertion that is not directly stated. The answer may be inferred from the opening paragraph, which thanks the scientists involved for offering "proof of this hypothesis" through their "concerted, Internet-based efforts." The Assessment did not set forth the hypothesis (choice A); that had already been done via anecdotal evidence. They certainly did not eliminate the need for more study (choice B); nor did they refute the contention (choice C). They provided proof for it (choice D).

PART 2: Critical Analysis and Reasoning Skills

- 13. The correct answer is D. This is an Evaluation question that asks about Unsupported Assertions. It often appears in this particular format on the MCAT (see box above). Unless you have a photographic memory, the only way to answer a question like this one is to return to the text and find the assertions listed, which are most likely not worded quite the way they are in the question. Assertion I appears in paragraph 3. The paragraph goes on to discuss other problems with permeability, but it never gives specific examples of pollutants harming amphibians. Because assertion I is unsupported, choices A and C are incorrect. Because choices B and D both include assertion III, you can assume that assertion III is supported in the text (as it is, with a list of countries). The only question you should have is about assertion II. This assertion is made toward the end of paragraph 3, and it is, in fact, supported by an example: "One emerging infectious disease in particular has led to entire populations being wiped out in Australia and the Americas." So the best answer is choice D.
- 14. The correct answer is C. This Incorporation of Information question requires Combining Information, applying what you know to what you have read. The passage refers to amphibians as "a barometer of environmental health," apparently because they are so sensitive. The closest correlation is to canaries in a coal mine, which traditionally were used as animal sentinels to warn miners about the presence of toxic gases. Because the birds were tiny and sensitive, they reacted to the gases long before humans would. Similarly, amphibian decline predicts hazards in the environment.
- 15. **The correct answer is A.** This **Application** question asks you to **Make Predictions**, which you must do based on the text rather than on any external knowledge of the topic you may have. The author never speaks of floods and droughts (choice B), so even though they may be an effect of environmental degradation, they cannot be the correct answer. Likewise, insects (choice D) are never mentioned, although "reptiles, fish, birds, and mammals" are. Choice C is a stretch, although it is possible. The final paragraph deals with an extrapolation of the information about amphibians to other species, and it mentions the idea that even the pandemics affecting amphibians now may be caused by global changes (which are, in turn, caused by environmental degradation). This makes choice A the best answer of the four.

Notice in this sample set that the most difficult question is not the one that requires highest-order thinking, or Incorporation of Information. Although in most cases, Comprehension questions will appear first and Incorporation of Information questions last, the MCAT order really depends on the difficulty of concepts rather than the hierarchy of thinking skills.

#### **SAMPLE PASSAGE IV: HUMANITIES**

The best-known poet in the history of Australian literature is a man who never existed. According to the story, Ernest Lalor Malley was born in 1918 and emigrated to Australia as a child. He worked as an insurance salesman and wrote poetry as a sideline and hobby, a fact discovered only after his death from Graves' disease at age 25. At that time, his sister Ethel, while going through Malley's meager possessions, discovered a sheaf of poems.

She sent the poems to a young editor named Max Harris, who ran a modernist magazine called *Angry Penguins*. The magazine had come under fire from many artistic conservatives, who considered the new modernist poetry humorless and nonsensical. Among these conservatives were the young poets Harold Stewart and James McAuley.

Harris adored Ern Malley's poems, which numbered 17 in all, and promptly produced a special edition of *Angry Penguins* that would contain them all. Immediately, controversy arose. Although many of Harris's colleagues found the poems fascinating, others began to question and even to ridicule the poems, claiming that they represented a hoax perpetrated on the literary scene by Max Harris.

The controversy found its way into the local newspapers, which made it their business to track down Ern Malley and put an end to the story one way or the other. It took only a few weeks for the Sydney *Sun* to determine that poets Harold Stewart and James McAuley had composed all 17 poems in a single afternoon, paraphrasing chunks of text from a dictionary of quotations, the works of Shakespeare, and whatever came into their minds. They had then invented the backstory for the hapless Ern Malley and submitted the whole to their least favorite editor, Max Harris.

The point, of course, was to prove that modernist poetry was indiscriminate and meaningless, and to some degree, that point prevailed. *Angry Penguins* closed up shop, and the modernist movement in Australia was completely derailed. Max Harris was actually tried and convicted for publishing obscene poetry. Perversely, he continued throughout his life to insist that hoax or not, Stewart and McAuley had managed to write real poetry, poetry that had meaning and substance. Surprisingly, others agreed. Although some critics who had leaped onto the Malley bandwagon when the poems first appeared now backpedaled furiously, others insisted that the poems had literary merit.

The poems continued to have a life of their own, and even today they are frequently reissued and anthologized. American poet John Ashbery and other members of the New York School of poetry, who championed a kind of surrealist, transcendental verse, became major devotees of the mythical Malley. According to Michael Heyward in *The Ern Malley Affair*, Ashbery would regularly print a legitimate poem next to a Malley poem for his creative writing class's final exam, and would ask students to identify the hoax. The results were usually about 50–50.

PART 2: Critical Analysis and Reasoning Skills So, what is the moral of this cautionary tale? Certainly an editor should never be so trusting, and the provenance of all written works should be carefully researched. However, because Malley's work today remains better known than that of Stewart or McAuley under their real names, perhaps the lesson has to do with never taking oneself too seriously.

- 16. According to the passage, at the time of the hoax, McAuley and Stewart were all of these things EXCEPT:
  - A. Australian
  - B. conservative
  - C. youthful
  - D. salesmen
- 17. Which of the following statements is NOT presented as evidence that the Ern Malley hoax had a profound influence on the direction of Australian poetry?
  - A. Angry Penguins closed up shop.
  - **B.** The New York School championed surrealist verse.
  - **C.** The modernist movement was completely derailed.
  - **D.** Some critics backpedaled furiously.
- 18. The passage implies that McAuley and Stewart were motivated by:
  - A. greed
  - B. principle
  - C. spite
  - D. rage
- 19. Given the information in this passage, if you were given two unfamiliar poems, one by Ern Malley and the other by a distinguished poet, which of these outcomes would MOST likely occur?
  - **A.** You would be as likely to praise the Ern Malley poem as the real poem.
  - **B.** You would identify the Ern Malley poem as the legitimate work.
  - C. You would be able to discern the true poem from the hoax.
  - **D.** You would think both poems had equal merit.
- 20. Which of the following incidents BEST supports the author's belief that editors should never be as trusting as Max Harris was?
  - **A.** For centuries, some scholars have insisted that either Bacon or Marlowe wrote works attributed to Shakespeare.
  - **B.** Reporter Stephen Glass repeatedly falsified quotations in widely-read stories for the *New Republic*.
  - **C.** Investigative reporter Seymour Hersh first broke the story of the massacre of civilians at My Lai.
  - **D.** Editor Harold Ross encouraged writers for the *New Yorker* to publish the truth always tinged with humor.

#### Format DOs and DON'Ts

Watch out for questions that require you to identify a negative. Questions that are worded in the following ways may trick you:

"All of these are true EXCEPT . . ."

"Which of these statements is NOT . . ."

DO look for the capitalized word in the question stem. The MCAT style is to capitalize the negative word. That's your clue that the answer requires identification of a negative. DON'T fall into the trap of choosing choice A because it's true when the question really asks you to find the statement that's false.

#### SAMPLE PASSAGE IV: ANSWERS AND EXPLANATIONS

- 16. **The correct answer is D.** This identifying-a-negative format (see box above) occurs from time to time on the MCAT's Verbal section. This **Comprehension** question tests your ability to **Locate Supporting Details or Evidence**. In questions of this kind, everything you need to know is found directly in the text. The last line of paragraph 2 contains much of what you need: "Among these conservatives were the young poets Harold Stewart and James McAuley." The men were conservative (choice B) and youthful (choice C). Because everyone in the story is Australian save for the poets of the New York School mentioned at the end, it is safe to assume that choice A is true of McAuley and Stewart as well. Only Ern Malley is identified as a salesman (choice D); there is no indication that either McAuley or Stewart is anything other than a poet.
- 17. **The correct answer is B.** This **Evaluation** question asks you to **Assess Evidence**. Look at questions like this one as you would mathematical proofs. The hypothesis is given in the question stem: The Ern Malley hoax had a profound influence on the direction of Australian poetry. You must then determine which of the answer choices supports that hypothesis and which one does not. The one that does not is the correct answer.

Here, the fact that the literary magazine closed following the hoax (choice A) does support the hypothesis. The fact that the modernist movement was derailed (choice C) does support the hypothesis. The fact that some critics backpedaled (choice D) does support the hypothesis. The fact that the New York School championed surrealist verse (choice B) does not; the New York School is American, not Australian, and its love of surrealist verse has nothing to do with the effect of the hoax on Australian poetry.

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- 18. **The correct answer is C.** This **Application** question asks you to **Draw Conclusions** about characters' motivations. It is a skill most often applied to fiction, but it works in this case for nonfiction as well. The word *implies* tells you that the answer is not directly stated. It is up to you to return to the passage and make inferences based on your own understanding of human nature. Although the author indicates that the two men wanted to prove the ridiculousness of modernist poetry, which might be a matter of principle (choice B), their use of the innocent Max Harris seems spiteful, making choice C the better answer. There is no support for either choice A or choice D. McAuley and Stewart have nothing to gain monetarily by the hoax, and they seem amused rather than irate.
- 19. **The correct answer is A.** This **Application** question requires you to **Make Predictions** about a hypothetical situation, based on the information that was laid out for you in the passage. The important clue is in paragraph 6, which mentions that John Ashbery used to perform just this experiment for his classes, with results that approximated 50–50. That information supports choice A, which calls for the same results. Because even professional critics were fooled, there is no reason to believe you would do any better or worse than Ashbery's students did.
- 20. **The correct answer is B.** This **Incorporation of Information** question requires you to **Combine Information** from the passage with new information to come up with a conclusion. The belief as stated is that "editors should never be as trusting as Max Harris was," and your job is to find the one answer choice that best supports this premise. Of the answers given, choices C and D pretty clearly do not support the premise, because they do not involve a question of trust between editor and writer. Choices A and B may involve trust, but in the case of choice A, it is more between editor and reader than editor and writer. Therefore choice B, in which a writer included false information in published materials, is the choice that best reflects the author's belief.

#### SAMPLE PASSAGE V: SOCIAL SCIENCES

"... for not an orphan in the wide world can be so deserted as the child who is an outcast from a living parent's love."

—Charles Dickens, Dombey & Son

Of course, in Dickens's day, and indeed, into more modern times, the child outcast from a living parent's love was likely to find him- or herself in the poorhouse or the workhouse or out on the streets. Today, in the United States, we deal with many such children—more than half a million at any one time—through the foster care system and the department of social services.

Certainly most of the children who find themselves in the foster care system are not really "outcast from a living parent's love," but most do have living parents. The goal of the foster care system is to reunite families that have been torn apart by circumstance.

The circumstances are many. According to the U.S. Department of Health and Human Services, about 60 percent of foster children come into the system for their own protection; in other words, as a result of abuse or neglect or both. Around 16 percent are there because their parents are "absent," perhaps in prison, perhaps simply vanished into the void of drug abuse, alcoholism, or mental illness. Another 14 percent or so are in the system due to their own criminal or delinquent behavior. A small minority, say 4 percent, are in foster care because their birth parent or parents cannot cope with their child's handicap.

Less than 1 percent of foster children are in the system because their parents have relinquished all rights to them. For the remaining 99 percent, then, the sponsoring agencies must try to create a plan by which the child and family can be reconciled. Sometimes this happens quickly; 20 percent of children remain in care for less than 6 months. Sometimes it happens slowly or not at all; 32 percent of children remain in care for more than 3 years.

In April 2005, the Casey Family Programs published a study they had performed in connection with several universities in which they looked at hundreds of former foster children in Washington and Oregon. Although each state differs in the rules for its foster care system, most withdraw care when a child turns 18. The Casey study looked at young adults between the ages of 20 and 33, and what they found was disturbing. Following their release from the system, around 25 percent of the young adults had been homeless for at least some period of time. At the point of the study, about 35 percent were living at or below the poverty level. More than 50 percent suffered from one or more mental health problems, from anxiety to depression to more serious issues.

Of the foster children studied, 56 percent had received a high school diploma, whereas 29 percent had received a GED instead. In the general population, 82 percent graduate from high school, and 5 percent receive a GED.

Other studies tend to corroborate the notion that foster care is not necessarily a positive step on the road to adulthood. According to the National Association of Social Workers, some 80 percent of prison inmates spent part of their childhood in the foster care system. And although that particular statistic might reveal more about the circumstances that led children to foster care than about the system itself, the National Center on Child Abuse and Neglect did find that children were 11 times more likely to be abused in state care than in their own homes. Could the Dickensian alternatives be worse?

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- 21. In the context of the passage, the word reconciled means:
  - A. acquiescent
  - B. resigned
  - C. reunited
  - D. resolved
- 22. The central thesis of the passage is that:
  - A. foster care has greatly improved since Dickens's day.
  - **B.** foster care is not as beneficial as it should be.
  - **C.** foster care relies on the kindness of strangers.
  - **D.** foster care's goal is the creation of a new, functional family.
- 23. Based on the information in the passage, which of these outcomes is MOST likely when a young boy is placed in foster care?
  - **A.** He will be reunited with his family within 3 years.
  - **B.** He will spend part of his adulthood in prison.
  - **C.** He will remain in the system due to delinquent behavior.
  - **D.** He will be moved between two or three foster homes.
- 24. The passage implies that:
  - A. withdrawal of care at age 18 may be detrimental to foster children.
  - **B.** abuse and neglect are just as prevalent in foster homes as on the street.
  - C. handicapped children are twice as likely to end up in foster care.
  - D. a GED diploma is equivalent in value to a high school degree.
- 25. Suppose a new study of former foster children found that those who were in foster care due to incorrigibility and delinquent behavior were those who later found themselves in prison for some part of their adulthood. This new information would most CHALLENGE the implication that:
  - A. foster care does not succeed in reuniting families.
  - **B.** state care alone increases the odds of future incarceration.
  - C. children are more likely to be abused in foster care.
  - **D.** many children enter foster care because of absent parents.

#### SAMPLE PASSAGE V: ANSWERS AND EXPLANATIONS

- 21. **The correct answer is C.** This **Comprehension** question asks you to **Interpret Vocabulary**. The word in question appears in the fourth paragraph of the passage. The child and family are to be reconciled, which means that they are to be brought back together. Although choices A, B, and D are synonyms for *reconciled*, only choice C has this denotation of bringing back together.
- 22. **The correct answer is B.** To answer this **Comprehension** question on **Finding the Main Idea** correctly, ask yourself, "What point is the author trying to make?"

- In quoting the largely negative Casey Family Programs study, it seems clear that the point is not choice A. If you have any doubt about that, the final sentence of the passage should clarify the author's stance. Choice C is never mentioned, and choice D is wrong—the goal of foster care, according to the passage, is "to create a plan by which the child and family can be reconciled." The best summary of the central thesis is choice B.
- 23. **The correct answer is A.** This is an **Application** question that asks you to **Make Predictions**. The key to this question is the phrase "MOST likely." Choice B has some likelihood. We do know that 80 percent of prisoners spent some time in foster care, but without having the number of prisoners compared to the number of foster children, we cannot calculate those odds. Choices C and D probably have some likelihood as well, but neither is mentioned in the passage. Statistics in paragraph 4 indicate that for 99 percent of foster children, the goal is reconciliation. Of those, 20 percent are reconciled within 6 months, and 68 percent are reconciled within 3 years. Choice A is correct.
- 24. The correct answer is A. You must Draw Conclusions to answer this Application question. To draw a conclusion, you must use information that actually exists in the passage. Abuse and neglect are clearly prevalent in foster homes (choice B), but whether they are as prevalent there as on the street is never implied. Only 4 percent of the children in foster care are there because of some handicap, and because we do not know total figures, we cannot draw the conclusion that is given in choice C. The implication in choice D is challenged by the author's statistics in paragraph 6. If a GED diploma were equivalent in value to a high school degree, it would hardly matter that foster children are much more likely to get GED diplomas than are children in the general population. The Casey study looked at young adults who were formerly in foster care and found that only a few years after their release from the system, many were doing poorly. The implication is that without the care, they often fail, so choice A is the best answer.
- 25. **The correct answer is B.** This **Incorporation of Information** question requires you to **Apply New Evidence**. The new study would indicate that the delinquency itself led to future incarceration, and that the foster care system was only incidental. That in turn would mean that foster care on its own was not the cause of future incarceration (choice B). The new study would not affect choices A, C, or D at all.

#### SAMPLE PASSAGE VI: NATURAL SCIENCES

A land bridge is land exposed when the sea recedes, connecting one expanse of land to another. One land bridge that still exists today is the Sinai Peninsula, which attaches the Middle East to North Africa. Central America is another land bridge, this one connecting North to South America.

PART 2: Critical Analysis and Reasoning Skills Historical land bridges are many. There was a bridge connecting the British Isles to the European continent, and there was one between Spain and Morocco at what is now the Straits of Gibraltar. There were bridges connecting Japan to China and Korea. One of the most famous land bridges was the Bering Land Bridge, often known as Beringia, which connected Alaska to Siberia across what is now the Bering Strait.

The Bering Land Bridge was not terribly long. If it still existed today, you could drive it in your car in about an hour. It appeared during the Ice Age, when enormous sheets of ice covered much of Europe and America. The ice sheets contained huge amounts of water north of the Equator, and because of this, the sea level dropped precipitously, perhaps as much as 400 feet, revealing landmasses such as the Bering Land Bridge.

At this time, the ecology of the northern hemisphere was that of the Mammoth Steppe. It was a dry, frigid land filled with grasses, sedges, and tundra vegetation. It supported many large, grazing animals including reindeer, bison, and musk oxen, as well as the lions that fed on them. It also contained large camels, giant short-faced bears, and woolly mammoths.

The Bering Land Bridge may have been somewhat wetter than other areas of the Mammoth Steppe, because it was bordered north and south by ocean and fed by ocean breezes. Many of the animals of the Mammoth Steppe used the bridge to cross from east to west and back again. Eventually, their human hunters tracked them from Asia to North America.

Ethnologists and geologists generally believe that humans used the Bering Land Bridge to populate the Americas, which up until about 24,000 years ago had no sign of human life. Ethnologists use evidence such as shared religions, similar houses and tools, and unique methods of cleaning and preserving food to show the link between the people of coastal Siberia and the people of coastal Alaska.

There are those among the Native American population who dispute the land bridge theory. For one thing, it contradicts most native teachings on the origins of the people. For another, it seems to undermine the notion that they are truly "native" to the North American continent.

The waters returned about 12,000 years ago, and today global warming means that the sea level is rising steadily. It is difficult to stand on the shore of the Seward Peninsula today and picture walking across to Russia. It is easier to imagine if you look at a map. The borders are so close that the continents seem to kiss. Just a quick holding back of the waters, à la Moses in *The Ten Commandments*, and you can picture a Pleistocene hunter chasing a woolly mammoth across the land bridge to the untamed continent beyond.

- 26. According to this passage, the first people in North America lived:
  - A. in what is now Central America
  - B. west of the Bering Strait
  - C. below sea level
  - D. in what is now Alaska

- 27. Based on information in the passage, about how long was the Bering Land Bridge?
  - A. between 50 and 75 miles long
  - B. between 90 and 120 miles long
  - C. around 150 miles long
  - D. around 200 miles long
- 28. According to the passage, which of these would be considered a land bridge?
  - A. the Isthmus of Panama
  - **B.** the Chesapeake Bay
  - C. the Strait of Hormuz
  - D. the Khyber Pass
- 29. Which of the following assertions does the author support with an example or examples?
  - I. Ethnologists use evidence to show links between the people of Siberia and those of coastal Alaska.
  - II. There are many historical land bridges.
  - **III.** The Mammoth Steppe supported many large, grazing animals.
  - A. I only
  - B. III only
  - C. I and II only
  - D. I, II, and III
- 30. According to the passage, why does Beringia no longer exist?
  - A. The Ice Age ended.
  - **B.** Ozone depletion raised the sea levels.
  - **C.** It was replaced with enormous sheets of ice.
  - **D.** The continents drifted apart.
- 31. The author suggests that some contemporary Native Americans object to the land bridge theory because:
  - A. it equates them with Pleistocene man.
  - **B.** it challenges their history and status.
  - C. it relies on disputed science.
  - D. it belies the importance of southern tribes.
- 32. Which of the following findings best supports the author's contention that Siberia was once connected to North America?
  - A. Native American legends from the American Northwest feature enormous whales and large fish.
  - **B.** People of coastal Siberia have features that distinguish them from people in the rest of Russia.
  - C. Hunters in both Siberia and coastal Alaska continue to hunt seals, walrus, and sea lions.
  - D. Large animal fossils found in both places prove that identical species once populated both regions.

PART 2: Critical Analysis and Reasoning Skills

- 33. Which new information, if true, would most CHALLENGE the claim that humans first moved to North America across the Bering Land Bridge?
  - A. A new translation of an Inuit legend about Raven and a giant flood.
  - B. New fossil records that place the Ice Age 1000 years earlier than believed.
  - **C.** The discovery of human fossils in Kansas that predate the Ice Age.
  - **D.** DNA proof that the musk ox of Siberia differed from the musk ox of Alaska.

#### SAMPLE PASSAGE VI: ANSWERS AND EXPLANATIONS

- 26. **The correct answer is D.** This straightforward **Comprehension** question asks you to **Locate Supporting Details**. The Bering Land Bridge is described as connecting Siberia to what is now Alaska. If humans walked across from Siberia, the first ones in North America would have emerged into Alaska.
- 27. **The correct answer is A.** This is a very simple **Application** question that requires you to **Solve a Problem** using details from the passage. According to the passage, you could drive across the bridge, if it still existed, in about an hour. Based on that information, you can infer that the bridge was about as long as a typical mileage per hour, which would put it at choice A, between 50 and 75 miles.
- 28. **The correct answer is A.** Again, this is an **Application** question, this time requiring you to **Make Generalizations**. A land bridge is a piece of land with water on either side that connects two larger pieces of land. That makes it equivalent to an isthmus (choice A). A bay (choice B) is a body of water, a strait (choice C) is a channel of water connecting two pieces of land, and a pass (choice D) is a narrow piece of land between mountains.
- 29. **The correct answer is D.** Here, you are asked to **Analyze an Argument** by answering an **Evaluation** question. "Ethnologists use evidence such as shared religions, similar houses and tools, and unique methods of cleaning and preserving food to show the link between the people of coastal Siberia and the people of coastal Alaska." That supports assertion I. "There was a bridge connecting the British Isles to the European continent, and there was one between Spain and Morocco at what is now the Straits of Gibraltar. There were bridges connecting Japan to China and Korea." That supports assertion II. "It supported many large, grazing animals including reindeer, bison, and musk oxen, as well as the lions that fed on them." That supports assertion III. Because all three assertions are supported with examples, the correct response is choice D.
- 30. **The correct answer is A.** You must **Draw Conclusions** to answer this **Application** question. There is no evidence to support choices B, C, or D. The Bering Land Bridge disappeared when the waters came back. The waters went away in the first place because the large ice slabs formed during the Ice Age displaced

- them. When that age ended, the bridge was covered over. The correct answer is choice A.
- 31. **The correct answer is B.** This **Application** question involves **Identifying Cause and Effect**. According to the passage, some Native Americans object to the theory because "it contradicts most native teachings on the origins of the people" and "it seems to undermine the notion that they are truly 'native' to the North American continent." In other words, it challenges their history and status.
- 32. **The correct answer is D.** Read this **Incorporation of Information** question carefully to **Apply New Evidence** to the author's assertions. Your challenge is to find the response that BEST supports the idea that the continents were once connected. Answer A affects only North America. Answer B affects only Siberia. Answer C is possible, but it does not provide the unambiguous evidence that answer D does.
- 33. **The correct answer is** C. With this **Incorporation of Information** question, you must **Modify Conclusions** based on new information. Again, you must look for the answer that BEST challenges the idea that humans first moved from Siberia to North America. Neither choice A nor choice B would prove or disprove the notion. Choice D would throw some doubt on the theory that the two continents were connected, but only choice C would indicate that humans were already in North America prior to the forming of the land bridge.

#### SAMPLE PASSAGE VII: HUMANITIES

Pop! goes the weasel . . .

It's a meaningless phrase from a nursery rhyme, but some students of linguistics believe that it derives from Cockney rhyming slang, a form of English slang that originated in the East End of inner London. The Cockneys, traditionally, were those working-class citizens born within earshot of the bells of St. Mary-le-Bow, Cheapside. The word itself was a slap at the ignorant townsfolk by country gentry, who likened their urban brothers and sisters to deformed eggs, known as "cokeney" or "cock's eggs."

The Cockneys developed their own vernacular over a hundred years or so, and during the early part of the 19th century, rhyming slang became an integral part of this argot. It was associated in many Londoners' minds with the underworld, because it could easily be used as a sort of code. For their own self-preservation, Scotland Yard began to publish translations of the slang in police manuals, and thus the strange colloquialisms began to cross out of the East End and into the general population.

The rules behind the rhyming slang are as simple as the result is difficult to comprehend. A speaker puts together words, the last of which rhymes with the word he or she means to denote. For example, *loaf of bread* might mean "head." The difficulty comes

PART 2: Critical Analysis and Reasoning Skills as the slang becomes widespread and the original rhyme is discarded as superfluous, so that *loaf* means "head" in a sentence such as "He gave his loaf a thump."

Our own phrase "Put up your dukes" may derive from Cockney rhyming slang. Originally, the theory goes, the rhyme was "Duke of York" = "fork," an old slang term meaning the hand.

But back to "Pop! goes the weasel." Supposedly, *weasel* was from *weasel and stoat*, and referred to a coat. To pop one's weasel was to pawn one's coat, a relatively common practice on the East End as one's paycheck failed to stretch from one week to the next.

Sometimes, clearly, there was a certain deliberate irony in the choices of rhymes. For example, what are we to make of the fact that *trouble*, as in *trouble and strife*, is Cockney slang meaning "wife"? Sometimes, too, there was deliberate obfuscation. Would that bobby on the corner recognize himself as a *bluebottle* (bottle and stopper = "copper")? Would he know you were talking about him if you referred to *ducks and geese* ("police")? And finally, much Cockney rhyming slang was euphemistic, with rhymes substituted for words considered obscene or impolite.

Rhyming slang has moved out of the East End and throughout the English-speaking world. The phrase *eighty-sixed* means "nixed," or "thrown out." It is strictly American rhyming slang from the time of the Great Depression. Australia, too, has its own very elaborate rhyming slang. Many elements of rhyming slang have worked their way into the everyday speech of Londoners of all classes, and often their origins have been entirely forgotten.

Recently, rhyming slang has become popular again, with modern pop culture figures working their way into the mix, from Britney Spears ("beers") to Dame Judi (Dench) ("stench"). As with Pig Latin, the fun is in confounding the listener and creating a code that only the "in" group can decipher. So wipe that puzzled look off your *boat* (boat race = "face") and try to *rabbit* (rabbit and pork = "talk") the way *saucepans* (saucepan lids = "kids") do today!

- 34. The central thesis of the passage is that:
  - **A.** Cockney rhyming slang developed as a means of communicating among immigrant populations without a common language.
  - **B.** Cockney rhyming slang has seen a comeback among the country gentry in rural England.
  - **C.** Cockney rhyming slang was and continues to be a witty way to fashion an exclusive coded language.
  - **D.** Cockney rhyming slang has moved from the underworld into the everyday language of pop figures.

- 35. The discussion of Scotland Yard shows primarily that:
  - **A.** to the police, rhyming slang was a troublesome barrier.
  - **B.** most people who use rhyming slang are criminals.
  - **C.** rhyming slang moved from north to south through Britain.
  - **D.** code breaking is one critical job of the legal profession.
- 36. The author of the passage indicates that:
  - **A.** Cockney rhyming slang is too limited to be useful.
  - B. certain examples of Cockney rhyming slang are ironic.
  - C. rhyming slang is restricted to a certain class.
  - **D.** the Cockneys of old were aptly named.
- 37. According to the passage, why might slang-users have called a policeman a "bluebottle"?
  - A. to offend him
  - B. to confuse him
  - C. to irritate him
  - **D.** to amuse him
- 38. The movement of rhyming slang, as described in paragraph 6, is MOST analogous to which of these culinary changes?
  - A. the development of the locally grown movement
  - B. the fusion of Asian and French cuisine
  - C. the use of cupcake towers in place of typical wedding cakes
  - **D.** the incorporation of Latin spices in traditional American dishes
- 39. The passage suggests that today's rhyming slang is:
  - A. less complex than in the past
  - **B.** limited to the underworld
  - **C.** used by entertainers
  - D. popular with teenagers
- 40. According to the rules for forming Cockney rhyming slang, which word might be rhyming slang for *house*?
  - A. cat, from "cat and mouse"
  - **B.** rat, from "dirty rat"
  - **C.** *home*, from "house and home"
  - **D.** *louse*, from "dirty louse"

#### SAMPLE PASSAGE VII: ANSWERS AND EXPLANATIONS

34. **The correct answer is C.** The words *central thesis* tell you that this is a **Comprehension** question that tests your ability to **Find the Main Idea**. Neither choice A nor choice B has any support in the passage. Choice D is close, but the passage

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- suggests that pop figures are a topic of rhyming slang and not the perpetrators of it. The statement that best expresses the main idea of the passage as a whole is choice C.
- 35. The correct answer is A. This Comprehension question asks you to Choose an Accurate Summary. The word *primarily* is critical here; it indicates that you must think about the author's main reason for including a section of the passage. The discussion of Scotland Yard tells of police publishing translations of rhyming slang in their manuals. The implication is that rhyming slang was causing them problems, and they needed to understand it better to perform their jobs. Choice A is the best paraphrase of this. Criminals did use rhyming slang, but whether most people who use it are criminals (choice B) is open to debate. The word *Scotland* may fool you into selecting choice C, but Scotland Yard is in London, not in Scotland. The author has no reason to emphasize code breaking as an important part of law enforcement, so choice D is not a good answer.
- 36. **The correct answer is B.** This is an **Application** question involving **Drawing Conclusions**. The author makes no statement, indirect or otherwise, in support of choice A or choice D. Although choice C was once true, the final paragraph of the passage implies that rhyming slang has moved beyond a single class. The best answer is choice B; the author states, "Sometimes, clearly, there was a certain deliberate irony in the choices of rhyme."
- 37. **The correct answer is B.** Again, this **Application** question asks you to **Draw Conclusions** from what is stated. Skim the passage to find the reference to "bluebottle." The author says, "Sometimes, too, there was deliberate obfuscation. Would that bobby on the corner recognize himself as a *bluebottle* (bottle and stopper = 'copper')?" The mission of the rhymer was to confuse the police.
- 38. **The correct answer is D.** To answer this **Incorporation of Information** question that asks you to **Combine Information**, think, according to paragraph 6, what happened to rhyming slang? The answer is that it moved from its original locale and worked its way into ordinary speech. Choice D is the most analogous to this movement: Latin spices have moved from their original locale and worked their way into ordinary American food.
- 39. **The correct answer is D.** This kind of **Application** question requires **Making Generalizations**. There is no support for choices A or B, and choice C represents a misunderstanding of the final paragraph of the passage. The best answer is choice D, for the author ends by suggesting that the reader learn to talk the way kids do today.
- 40. **The correct answer is A.** This is an **Application** question that forces you to apply what you've learned to **Solve a Problem** that is outside the bounds of the passage itself. Cockney rhyming slang begins with a rhyming phrase, but often, as the author states, "the original rhyme is discarded as superfluous." In the passage, the example given is *loaf of bread* for "head" becoming simply *loaf*. The only example

from the answer choices that follows this pattern is choice A, with *and mouse* dropping off *cat and mouse* to leave simply *cat*.

#### SAMPLE PASSAGE VIII: HUMANITIES

"He <u>medalled</u> twice in the Empire State Games." "Learn to <u>parent</u> more effectively." "The rise in prices will impact the bottom line."

If your toes curl when you hear nouns used as verbs, as in the underlined words, you are not alone in your word-snobbishness. Nevertheless, it's worth remembering that the greatest English writer, William Shakespeare, was notorious for coining words in just this way. He changed nouns to verbs and verbs to adjectives with aplomb, and most of his conversions remain with us to this day.

Many of us are familiar with Shakespeare's clichés, those phrases that are now part of our lore of proverbs and expressions. We would not "break the ice" or "give the devil his due" if it weren't for the Bard. No one would have a "heart of gold," lie "dead as a doornail," or "come full circle."

When it comes to word coinage, it is difficult to determine which words are truly original with Shakespeare and which are simply words that first appeared in print with his works. A large percentage of Shakespearean coinages appear to be words that have familiar roots but are used as a new part of speech.

Some of the new words are nouns formed from verbs. For example, *accused* in *Richard II* is used to denote a person accused of a crime. The verb was well known, but there is no earlier example of this noun usage. *Scuffle* in *Antony and Cleopatra* denotes a fight and is taken from a verb already in existence. Shakespeare created other nouns by adding the noun-forming suffix *-ment* to a familiar verb: *amazement* and *excitement* appear for the first time in several of his plays.

More typical was the change of a noun to a verb. He used *to blanket* in *King Lear* and *to champion* in *Macbeth*. *To petition* shows up in *Antony and Cleopatra*, and *to humor* appears in *Love's Labour's Lost*. Other new verbs coined from existing nouns include *to lapse*, meaning "to fail"; *to cake*, meaning "to encrust"; and *to rival*, meaning "to compete with." We have no way of knowing whether these coinages provoked the same spinal shivers that good grammarians experience nowadays at the sound of *to parent*.

Many of Shakespeare's most successful coinages were descriptive in nature. He invented *raw-boned* in *Henry VI (Part 1)*, and there are few words today that better describe a certain kind of man. Similar hyphenates include *bold-faced* from the same play, *cold-blooded* from *King John*, *hot-blooded* from *The Merry Wives of Windsor*, and *well-bred* from *Henry IV (Part 2)*.

Occasionally, coinages were stolen from another language. There's *alligator* in *Romeo and Juliet* from the Spanish and *bandit* in *Henry IV (Part 2)* from the Italian. There's *to negotiate* and *to denote* from the Latin.

PART 2: Critical Analysis and Reasoning Skills Of course, not all of Shakespeare's coinages survived the centuries to come. We don't use the verb *to friend* anymore; nor do we call our friends *co-mates*. Something that is secured is not referred to as *virgined*, and we don't call a messy room *indigest*. Nevertheless, to study Shakespeare is to see how rapidly a language can change and grow and perhaps to recognize that to sneer at new coinages is to ignore the way English has evolved from the beginning.

- 41. In the context of the passage, the word *notorious* means:
  - A. renowned
  - B. disreputable
  - C. iniquitous
  - D. dishonorable
- 42. The central thesis of the passage is that:
  - A. Shakespeare gave us many important maxims and adages.
  - **B.** coined words are often grating to the ears.
  - C. Shakespeare teaches us a lot about how language grows.
  - D. modern coinages are largely stolen from Shakespeare.
- 43. Based on the information in the passage, which of these is MOST likely to happen to the coinage *to friend*?
  - A. It will come back into common use.
  - **B.** It will remain strictly Shakespearean.
  - C. It will be changed to an adjective.
  - **D.** It will be replaced with *co-mates*.
- 44. The author apparently believes that:
  - **A.** Shakespeare took unnecessary license with the Queen's English.
  - B. Shakespeare's coinages are far more inventive than coinages today.
  - C. changing nouns to verbs is an appallingly lazy way of coining words.
  - **D.** coined words are an important and natural evolution of language.
- 45. Suppose scholars found a long-lost medieval manuscript that used the word *accused* as a noun. This new information would most CHALLENGE the passage's implication that:
  - A. nouns were frequently coined from verbs.
  - **B.** Richard II was an original drama.
  - **C.** Shakespeare coined the word *accused*.
  - **D.** word coinage is a relatively new pastime.

#### SAMPLE PASSAGE VIII: ANSWERS AND EXPLANATIONS

41. **The correct answer is A.** This kind of **Comprehension** question involves **Interpreting Vocabulary**. According to the passage, "the greatest English writer, William

- Shakespeare, was notorious for coining words in just this way." Although each of the answer choices is a potential synonym for *notorious*, only *renowned* fits the context.
- 42. **The correct answer is C.** As do many **Comprehension** questions, this one asks you to **Find the Main Idea** of the passage. The "central thesis" of a passage is not just a passing subtheme, as choice A is; nor is it a minor detail, as choice B is. The central thesis of this passage has to do with the way that coined words add to the English language, and the author uses Shakespeare as the primary example of how this works.
- 43. **The correct answer is B.** This is an **Application** question involving **Making Predictions**. "We don't use the verb *to friend* anymore," says the author, using this as an example of coined words that have not survived the test of time. Because it has not survived, it is unlikely to return (choice A), and there is no support for the notion that it might change form (choice C), or be replaced by another archaic word (choice D). It will probably remain strictly Shakespearean, so the answer is choice B.
- 44. The correct answer is D. In this Application question, you are Drawing Conclusions about the author's intent. As always, you must choose the best or most likely answer. The author's interest in Shakespeare's coinages makes choice A unlikely, and there is no support for choice C. Choice B is possible, but there is not enough comparison to make it the best choice. The best or most likely answer is choice D; the author certainly implies that language evolves naturally, and that coinages are an important part of that evolution.
- 45. **The correct answer is C.** This **Incorporation of Information** question provides new information that might require you to **Modify Conclusions**. The discovery would not challenge but might rather support the idea that nouns were frequently coined from verbs (choice A). It would prove nothing about the originality of *Richard II* (choice B), and there is nothing in the passage that indicates that word coinage is new (choice D). An earlier finding of the word's use, however, would clearly contradict the assertion that Shakespeare coined the word. Choice C is correct.

#### SAMPLE PASSAGE IX: SOCIAL SCIENCES

They firmly practiced celibacy, yet their original leader, "Mother Ann," was a young woman who had birthed and lost four children. They believed in severe simplicity, yet their rituals were filled with the strange, ecstatic dances that led to their name. The American Shaking Quakers, or Shakers, were a radical group whose very contradictions would both empower and destroy them.

The Quakers were well-established both in England and in America when James Wardley began to lead his flock down a new path. Inspired by the millennial French

PART 2: Critical Analysis and Reasoning Skills Prophets, he instilled Quaker worship with communion with the dead, visions, and shaking. Like all radicals at the time, members of the Shaking Quakers were often harassed and imprisoned for their unusual ways of worship. During one such imprisonment, a young parishioner named Ann Lee had a vision in which she determined that she embodied the Second Coming of Christ, the female version of God as Father and Mother.

Mother Ann then became the leader of the congregation, and when another vision told her that a place had been prepared for her people, she decided to take her flock to safer harbor in America. A small group came with her. They settled on a commune near Albany, New York. Despite the American Revolution roiling around them, the group remained pacifistic, which led to further ostracism and harassment from the colonists nearby.

The tiny Shaker band got a new lease on life in 1779 when Joseph Meacham and his band of followers converted to their religion. It's important to remember what a radical leap this involved. The Shakers rejected the trinity in favor of a belief in the duality of the Holy Spirit, a spirit both male and female. They believed that the new millennium was not in the future but had already begun with Mother Ann's vision. They believed in celibacy as a symbol of a return to pre-Adam purity, and this relinquishing of typical sexual roles would lead to unusual gender equality. Unity of the commune was the goal, and unity was achieved through the suppression of individuality. Shakers lived in common dormitories, shared all worldly goods, and dressed and ate simply.

Equality and community appealed to the people from other cultures who joined the Shakers. They attracted Native Americans, free blacks, and non-Christians, and all were welcomed into the commune. Under Meacham's guidance, the commune began missions to other areas, eventually establishing 17 additional communes.

Of course, a religion with celibacy at its base must rely on missionary work for its survival. A commune, no matter how isolationist, must sometimes look outward. Many years after Mother Ann's death, Shaker communities used mail-order catalogs to sell the simple, functional furniture we know them for today.

The height of the religion was in the mid-19th century. By the end of the 20th century, only one tiny Shaker commune survived. The commune, near New Gloucester, Maine, has only a handful of elderly, female members. They continue to farm the land, make baskets and woven goods, and maintain a museum and library that are open to the public.

- 46. The central thesis of the passage is that:
  - A. no religion can survive without a mission.
  - B. celibacy was the best and worst thing about the Shakers.
  - C. the Shakers were a paradoxical sect.
  - D. our culture owes a lot to the Shakers.

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- 47. The discussion of the trinity shows primarily that:
  - A. Shaker beliefs differed radically from prevailing Christian faith.
  - B. Quakers believed in a duality of spiritual and corporeal being.
  - **C.** the Shakers rejected the concept of the new millennium.
  - **D.** a return to pre-Adamite purity was part of the Shaker commitment.
- 48. According to the passage, why might free blacks have joined the Shakers?
  - A. because of their antiwar stance
  - **B.** because of their free education
  - C. because of their inclusiveness
  - **D.** because of their simplicity
- 49. The author of the passage indicates that:
  - **A.** Shaker values are tied to the distant past.
  - **B.** the Shakers were doomed to extinction.
  - C. pacifism was confined to the New World.
  - **D.** Native Americans were easily converted.
- 50. Which of these examples from later American history is MOST analogous to the description of actions involving the Shakers in paragraph 3?
  - **A.** a failed rebellion in 1840s Rhode Island against an undemocratic government
  - B. the relocation of the communal Amana Society to Iowa in 1859
  - C. a bombing during a peaceful demonstration in Haymarket Square in 1886
  - **D.** attempts to suppress antiwar protestors in the Vietnam era
- 51. The passage suggests that the Shakers' use of mail-order catalogs was:
  - A. restrictive
  - B. inappropriate
  - C. fruitless
  - D. practical
- 52. Below is a favorite Shaker symbol. Based on the passage, which of these statements does the symbol MOST likely represent?



- **A.** Better to have your gold in the hand than in the heart.
- B. Give your hands to work and your hearts to God.
- C. Now join your hands, and with your hands your hearts.
- D. A friend reaches for your hand and touches your heart.

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#### SAMPLE PASSAGE IX: ANSWERS AND EXPLANATIONS

- 46. **The correct answer is C.** Again, the term *central thesis* indicates a **Comprehension** question on **Finding the Main Idea**. The central thesis is stated clearly in paragraph 1: "The American Shaking Quakers, or Shakers, were a radical group whose very contradictions would both empower and destroy them."
- 47. **The correct answer is A.** This kind of **Comprehension** question asks you to **Choose an Accurate Summary**. The example of the trinity is given specifically to point out how the Shakers differed from traditional doctrine. Although choice D is true of the Shakers, it has nothing to do with their rejection of the notion of the Father, the Son, and the Holy Spirit.
- 48. **The correct answer is C.** This is a fairly simple **Application** question involving **Identifying Cause and Effect**. According to the passage, the Shakers were a remarkably inclusive sect whose belief in equality and community "attracted Native Americans, free blacks, and non-Christians." There is no support for choices A or D and no mention at all of choice B.
- 49. **The correct answer is B.** To answer this **Application** question, you need to **Draw Conclusions**. You must find the answer that best shows what is implied by the passage. Although the Shaker sect is old, the author never implies that their values are outmoded (choice A). There is no support for choices C or D. However, the discussion of celibacy makes it fairly clear that the Shaker sect could not go on forever. The best answer is choice B.
- 50. **The correct answer is D. Incorporation of Information** questions like this ask you to **Combine Information** from within and outside the passage. In paragraph 3 of the passage, the Shakers settle in a commune, where their pacifist ways at a time of war lead to ostracism and harassment. The closest parallel is to antiwar protestors in the 1960s, which is choice D.
- 51. **The correct answer is D.** This **Application** question asks you to **Make Generalizations**. It might have been out of character, but the author does not present it as inappropriate (choice B). Nor was it fruitless (choice C); it seems to have been a practical way for the Shakers to sell their crafts.
- 52. **The correct answer is B.** This is an **Application** question that asks you to **Solve a Problem** by applying what you have learned to something new. Choice B is actually a quotation from Mother Ann. The Shakers were all about work and faith, not about money (choice A) or even friendship (choices C and D).

#### SAMPLE PASSAGE X: SOCIAL SCIENCES

The real estate bubble, the dot-com craze—for sheer lunacy and truly disastrous consequences, few economic swings hold a candle to tulipomania.

In 1593, a botanist brought back samples of tulips to Holland from Constantinople. He planted them in a garden with the intent of studying their medicinal value. His garden was ransacked, the bulbs were stolen, and that was the beginning of the tulip trade in Holland.

Rich Dutch homeowners coveted the new, colorful plants, and soon many of the finest houses in Holland had small plots of tulips. A mosaic virus attacked the introduced species, weakening the plant stock while at the same time causing odd streaks of color upon the petals of the flowers. These rather pretty alterations made the plants even more desirable, and shortly thereafter, prices began to rise out of control. By the year 1635, buyers were speculating on tulips, purchasing promissory notes while the bulbs were still in the ground. The trade in tulip futures became frenzied, with the prices of the most popular, damaged plants doubling and tripling overnight. Buyers bought on spec, assuming that they could turn around and sell at a profit once spring came.

Tulips have a built-in rarity, in that it takes years to grow one from seed, and most bulbs produce only one or two "offsets," or bulb clones, annually. That scarcity kept the value up even when new varieties were introduced on the market.

The tulip craze soon found ordinary citizens selling everything they owned for a single bulb, some of which were valued at the equivalent of thousands of dollars in today's currency; quite literally, bulbs were worth their weight in gold. Contemporary documents show that people traded oxen, silver, land, and houses for one tulip bulb. During the winter of 1636, when the craze was at its peak, a single bulb future might change hands half a dozen times in one day. Planting bulbs and growing flowers became wholly beside the point; the object was simply to buy and sell and resell.

As wild as this market was, it was transacted entirely outside of the established Stock Exchange in Amsterdam. It was a people's exchange. Typically, sales took place at auctions, but often they were transacted at pubs or in town squares.

Like any craze in which potential profits seem too good to be true, tulipomania was fated to end badly. In February 1637, at a bulb auction in Haarlem, the bottom fell out when no one agreed to pay the inflated prices. The ensuing panic took a matter of a few weeks; prices fell, bulb dealers refused to honor existing contracts, and the government had to leap in to try to bail the country out, offering 10 cents on the dollar for bulb contracts until even that could not be sustained. Eventually, a panel of judges declared that all investment in tulips was gambling and not recoverable investment.

PART 2: Critical Analysis and Reasoning Skills Holland slowly fell into an economic depression that lasted for years and eventually overflowed its borders into the rest of Europe.

- 53. The central thesis of the passage is that:
  - **A.** tulipomania was a localized craze with localized effects.
  - **B.** tulipomania shows the potential devastating effects of a craze.
  - C. the Stock Exchange cannot prevent people from unregulated trading.
  - D. the Stock Exchange developed as an answer to unregulated trading.
- 54. The passage suggests that the author would MOST likely believe that:
  - A. trading in futures may be ill-advised.
  - **B.** trading in commodities is safer than trading stock.
  - **C.** trading stocks is relatively risk-free.
  - **D.** trading at auctions is usually unwise.
- 55. Which of the following assertions does the author support with an example?
  - **I.** Tulips have a built-in rarity.
  - II. Sales were transacted in pubs and town squares.
  - III. Holland fell into a depression.
  - A. I only
  - B. III only
  - C. I and II only
  - **D.** I, II, and III
- 56. As described in paragraph 4, investments in tulips in the 16th and 17th centuries were similar to what types of investments today?
  - A. corporate real estate
  - **B.** start-up companies
  - C. corn futures
  - **D.** rare coins
- 57. The author refers to the trade in tulips as a "people's exchange." This term is used to indicate:
  - A. fairness
  - B. informality
  - C. low prices
  - **D.** efficiency
- 58. The 17th-century speculation on prospective tulip growth might be compared to today's:
  - A. fluctuation of oil and natural gas prices
  - B. exchange trading of options and futures
  - C. hedge funds in the foreign exchange market
  - D. issuance of risk-free municipal bonds

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- 59. Auctions in the Netherlands continue to handle between 60 and 70 percent of the world's flower production and export. What question might this information reasonably suggest about tulipomania?
  - **A.** whether it resulted not only in a depression but also in the death of the auction system of commodity trading
  - **B.** whether it led the Dutch government to take over substantial debt for bulb dealers and their patrons
  - **C.** whether it changed the Dutch way of doing business to one that was more formal and controlled
  - **D.** whether it forced the Dutch to look into new, nonagricultural products for export and import

#### SAMPLE PASSAGE X: ANSWERS AND EXPLANATIONS

- 53. **The correct answer is B.** This **Comprehension** question asks you to **Find the Main Idea** of the passage. Although choice C may be inferred from the passage, it is not the main idea. Choice A is belied by the fact that the depression in Holland ended up moving across Europe, and choice D is incorrect, because the Stock Exchange already existed at the time of tulipomania. The passage primarily shows the damaging effects of a craze (choice B).
- 54. **The correct answer is A.** To answer this **Application** question, you must **Make Predictions** based on what the author has said in the passage. The author implies that the "people's exchange" was less safe than the Stock Exchange, so choice B is unlikely, but there is still no indication that trading stocks is "risk-free" (choice C). There is no opinion given about the wisdom of trading at auctions (choice D); certainly it does not work well in tulipomania, but generalizing from that to the world at large is not possible. It is more viable to generalize that trading in futures may be ill-advised (choice A), especially because the answer includes the qualifying word *may*.
- 55. The correct answer is A. This Evaluation question involves Analyzing an Argument. There is no example given of sales transacted in pubs and town squares (II), nor is there an example to show how Holland fell into a depression (III). The assertion that tulips have a built-in rarity (I) is supported by two examples: "It takes years to grow one from seed, and most bulbs produce only one or two 'offsets,' or bulb clones, annually." Because only I is correct, the answer is choice A.
- 56. **The correct answer is D.** To answer this sort of **Incorporation of Information** question, **Combine Information** from the passage with what you know to determine the analogy. Tulipomania was about investment in futures, which might make you assume that choice C was correct, but paragraph 4 specifically explains

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- that tulips' value as an investment came from their built-in scarcity, making choice D a better analogy.
- 57. **The correct answer is B.** Although this involves vocabulary, it moves beyond simple comprehension to **Application**, requiring you to **Draw Conclusions** about the author's intent. The so-called "people's exchange" was neither fair (choice A) nor efficient (choice D), and it certainly did not hold prices down (choice C). It was an informal trading structure outside the realm of the traditional Stock Exchange.
- 58. **The correct answer is B.** This is not a simple compare-and-contrast question; it is an **Incorporation of Information** question that asks you to **Combine Information** from the passage with what you know. "Speculation on prospective tulip growth" equals trade in commodities futures, which today takes place in exchange trading on the Mercantile Exchange.
- 59. **The correct answer is C.** Again, the question works outward from the specific material given in the passage, making it an **Incorporation of Information** question, this time on **Applying New Evidence**. This question gives you a fact about the present and asks you to apply it to your understanding of the past. If Holland continues to trade tulips at auction, the auction system cannot be dead (choice A), and agricultural products must still be part of the Dutch economy (choice D). Choice B in no way corresponds to the fact from today. Choice C, on the other hand, is a reasonable question. Now that Holland appears to be successful at the bulb trade, something must have happened to change the way things worked.

# Critical Analysis and Reasoning Skills Minitest

**44 Questions 45 Minutes** 

This minitest is designed to assess your mastery of the content in Part 2 of this volume. The questions have been designed to simulate actual MCAT questions in terms of format and degree of difficulty. They test your ability to comprehend information in a reading passage, to analyze and evaluate arguments and supporting evidence, and to apply concepts and ideas to new situations. You will need to apply the scientific inquiry and reasoning skills that the test makers have identified as essential for success in medical school.

The passages in this section cover a wide range of topics in both the social sciences and the humanities. You may encounter readings in philosophy, ethics, cultural studies, and the like. All the information you need to answer questions will be provided in the passage; no outside knowledge of the topics is required.

Use this test to measure your readiness for the actual MCAT. Try to answer all of the questions within the specified time limit. If you run out of time, you will know that you need to work on improving your pacing.

Complete answer explanations are provided at the end of the minitest. Pay particular attention to the answers for questions you got wrong or skipped. If necessary, go back and review the question-answering strategies covered in the preceding pages.

Now turn the page and begin the Critical Analysis and Reasoning Skills Minitest.

PART 2: Critical Analysis and Reasoning Skills **Directions:** Questions 1–4 are based on the following passage.

#### Passage I

Recent research indicates that our experience of happiness can be self-regulated, regardless of external circumstances. We can actively choose to be happy. It was previously thought that levels of happiness were genetically determined; people were born with a genetic predisposition to cheerfulness or pessimism. However, studies now suggest that such predispositions, while present, are not fixed. Instead, emotion, and indeed the structure of the brain, can be modified through certain practices.

These findings are indebted to the work of psychologist Gordon Watson, who in 1930 conducted a study entitled "Happiness Among Adult Students of Education." Since happiness was considered a highly desired yet elusive and mysterious emotion, Watson's serious endeavor was startling. By the 1970s, the psychological community was researching happiness on a larger scale. Today, it is estimated that over 2000 researchers in 42 countries are actively involved in happiness research.

In that crowded field, the work of a professor of psychology at the University of Wisconsin, Richard Davidson, stands out. Davidson observed patterns of brain activity as they related to a subject's mental and emotional states, using brain science's new technologies, including quantitative electrophysiology, positron emission tomography, and functional magnetic resonance imaging. He discovered what Western science once believed to be impossible: that the brain is not a static organ—it is able to change and develop over time. This capacity is known as neuroplasticity, and it has had a profound effect on the study of happiness.

Davidson's studies found that the functions of the brain's cerebral cortex are not limited to determining intelligence, interpreting sensory impulses, and controlling motor function as once believed. In fact, this area also determines personality, including emotional predispositions. Levels of activity on the right and left sides of the cerebral cortex relate to feelings of happiness and sadness. Specifically, higher levels of activity at the left frontal area of the cerebral cortex coincide with feelings of happiness, while activity on the right frontal area correspond with feelings of sadness. Therefore, activities that generate side-specific activity can enhance those feelings.

For example, meditation has been shown to generate left-brain activity, and studies show that it produces positive emotions. Davidson studied the link between meditation and happiness through a project involving Tibetan Buddhist monks. His research brings together Eastern and Western traditions, and it links together objective reality with once-thought-to-be subjective internal states of consciousness. The connection is made through observable electrical activity in the central nervous system. When the monks in the study meditated, their brain activity was recorded. Increases in left cerebral cortex activity indicate that the practice of meditation can, over time, change the structure of the brain, increasing the size and activity level of the left cerebral cortex.

Another practice that has been shown to stimulate left cerebral cortex activity, and enhance feelings of happiness, is the altering of conscious thoughts. More specifically, when a subject repeats positive affirmations—thinking optimistic thoughts—activity in the left cerebral cortex increases. As with the practice of meditation, the repetition of positive affirmations can change the structure of the brain over time, creating feelings of happiness and well-being. These findings show that the mind-body connection cannot be denied.

- 1. In the context of the passage, the word *elusive* means:
  - A. prevaricating
  - B. deceitful
  - C. frank
  - D. evasive
- 2. The author's claim that Gordon Watson's scientific study of happiness was startling is supported by:
  - A. details about Watson's background and the publicity his study received
  - **B.** the description of the study's subject
  - **C.** the assertion that happiness was, at the time, desired but thought to be elusive and mysterious
  - D. the fact that he conducted the study in 1930
- 3. According to the passage, all of these are true EXCEPT:
  - A. the brain is able to change over time, a process known as neuroplasticity.
  - **B.** science is attempting to prove there is a mind-body connection.
  - **C.** Tibetan monks increase their left-side cerebral cortex activity through meditation.
  - **D.** the right frontal area of the brain corresponds with feelings of sadness.
- 4. Based on information in the passage, which of these outcomes should someone expect after silently repeating the phrase "I am successful" for 20 minutes?
  - A. a feeling of well-being
  - B. sadness
  - **C.** a creative impulse
  - **D.** fatigue

Questions 5–11 are based on the following passage.

#### Passage II

In sharp contrast to the modern, confessional poetry of the 20th century, the oeuvre of Henry Wadsworth Longfellow seems quaint and primly Victorian. During his lifetime, however, he was the most celebrated poet in the country. A closer look at the history of American poetry reveals that, despite his eminence, Longfellow wrote in a

PART 2: Critical Analysis and Reasoning Skills mold of both form and content that was already being challenged during his lifetime. But why, a century later, do the artistic works of many of his contemporaries continue to be enjoyed and studied while Longfellow languishes in the tomb of cultural artifacts?

One answer lies in the radical shift that began to take place in poetry in the mid-19th century. Longfellow's themes and steadfast rhymes (and those of John Greenleaf Whittier, Oliver Wendell Holmes, and James Russell Lowell) gave way gradually to confessional verse, whose subjects were more personal and rhymes were looser and less conventional. But to understand this shift, one must first understand the nature of Longfellow's work and his standing in the American literary scene of his time.

Longfellow took as his subject his country's historical imagination, writing on an epic scale about Paul Revere, the Indian Hiawatha, and the pilgrim Miles Standish. He bestowed a mythic dimension on these figures, giving American readers iconic images that helped form a collective consciousness in the new country (indeed, Longfellow was a part of the first generation to be born in the United States). But Longfellow's content went beyond nationalistic pride—it was highly accessible and incredibly popular. Its accessibility is explained by his obvious themes that could be easily understood and embraced by the public. Longfellow did not challenge his readers, but appealed to their desire for stories that expounded an optimistic, sentimental, and moralistic worldview. Those themes were explored in rhyme that allowed readers to commit the poems to memory, much like songs. In 1857, *The Song of Hiawatha*, arguably his best-known poem, sold 50,000 copies, an astounding number at the time. The next year, *The Courtship of Miles Standish* sold 25,000 copies in two months and in London sold 10,000 copies in one day. His success allowed him to give up a professorship at Harvard and focus full time on his writing.

Walt Whitman, Longfellow's contemporary, wrote poetry similar to that of Longfellow—romantic and sentimental, with conventional rhyme and meter. But in the 1850s, indeed two years before *The Song of Hiawatha*, he wrote and published *Leaves of Grass*; a more radical departure from his previous work could not have been imagined. The 12 unnamed poems comprising *Leaves of Grass* are written in free verse—that is, without conventional rhyme and meter. Yet, like Longfellow, he was determined to explore the subject of America and his love for his country.

Whitman looked to the writings of Ralph Waldo Emerson for inspiration. Emerson wrote "America is a poem in our eyes; its ample geography dazzles the imagination, and it will not wait long for metres." Indeed, Whitman paraphrased Emerson in his preface to *Leaves of Grass*, "The United States themselves are essentially the greatest poem." But by that he did not mean he would explore that nation's mythic past. Instead, he took as his subjects the commonplace and the personal, finding beauty everywhere but expressing it in unique ways. He wrote of larger themes such as democracy, slavery and the Civil War, varied occupations and types of work, social change, and the American landscape and the natural world. He also explored more intimate subjects: aging,

death and immortality, poverty, romantic love, and spirituality. In his "I Hear America Singing," he brings together these varied subjects to create a vision of America that is as far from Miles Standish as one can fathom. In it, he celebrates the "varied carols" sung by Americans, mechanics, carpenters, masons, boatmen, shoemakers, and mothers in long, unrhymed lines.

Whitman's ground-breaking free verse changed the trajectory of American poetry. The next generation of poets, including Ezra Pound, Hart Crane, Sherwood Anderson, and William Carlos Williams, celebrated their debt to Whitman. Decades later, the influence of Whitman's work on Allen Ginsberg and Langston Hughes, among many others, continues his legacy.

- 5. According to the passage, what might be the current reputation of poets such as Whittier and Holmes?
  - A. They are considered integral writers in the history of American poetry.
  - **B.** They are reviled as part of the Victorian Romantic period of American poetry.
  - C. They are regarded as antiquated due to their conventional form and content.
  - **D.** They are viewed as an influence on the Modern movement.
- 6. The main argument of the passage is that:
  - A. Whitman's free verse is superior to Longfellow's rhymes.
  - **B.** Longfellow's standing as an American poet was diminished by a rejection of quaint subjects and conventional rhyme and meter that came in the wake of poets such as Whitman.
  - **C.** Longfellow would be read and studied more today if he had retained his nationalistic subject matter but eschewed the sentimental tone and standard forms of his poems.
  - **D.** Ralph Waldo Emerson aided in the transformation of American poetry from Victorian Romanticism to Modernism.
- 7. Which of the following statements is NOT presented as evidence that Whitman is responsible for the radical shift in American poetry that occurred in the 19th century?
  - A. He used iconic American figures as his subjects.
  - **B.** His poetry was more personal and intimate than that of his predecessors or contemporaries.
  - **C.** He wrote about the common man and commonplace events.
  - **D.** He began writing in free verse rather than conventional rhymes.
- 8. What does the author mean by "tomb of cultural artifacts"?
  - A. a resting place for dead poets
  - B. a kind of cemetery in which people can pay their respects to writers of the past
  - C. a crypt where culturally significant items are stored
  - D. a group of ideas and works of art from the past that are considered to be dead

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- 9. The author apparently believes that:
  - A. poems about iconic American figures can become best-sellers.
  - **B.** Whitman's poems are more popular than Longfellow's because people prefer free verse and more personal poetry.
  - **C.** Ralph Waldo Emerson could be considered the father of Modern American poetry.
  - D. contemporary confessional poetry owes much to the work of Longfellow.
- 10. One of America's most famous Modern poets, Ezra Pound, said of Walt Whitman, "As for Whitman, I read him (in many parts) with acute pain, but when I write of certain things I find myself using his rhythms." How does this quote affect the author's contention that Pound and his generation of poets celebrated their debt to Whitman?
  - A. It repudiates it.
  - **B.** It endorses it.
  - C. It denies the contention by showing Pound's distaste for Whitman's work.
  - **D.** It calls into question the author's use of the word *celebrate*.
- 11. Sales figures for two of Longfellow's poems are cited:
  - A. to reinforce the idea that Longfellow's popularity was declining.
  - **B.** to compare his sales to those of his contemporaries.
  - C. because they mark a milestone in American publishing.
  - **D.** as evidence of his popularity at the time.

Questions 12–17 are based on the following passage.

#### **Passage III**

On what basis might it be said that animals have rights? To partisans on either side of the debate, the question itself seems absurd. Supporters of animal rights would reply that animals, as living creatures, have the same type of rights enjoyed by all living beings. Opponents of the cause would rejoin that rights are the product of rationalism and thus are the sole province of humans.

One interesting moral perspective from which to view the debate comes from the philosophy of utilitarianism. Jeremy Bentham, widely credited as the father of utilitarianism, believed that the rightness or wrongness of actions should be judged by the effect they have on all the beings affected by the action. The entire world comprised a closed system to which the actions of any member of the system either added to the sum total of pleasure in the system or to the sum total of pain. To Bentham, the interests and desires of the participants in the system were all equal; Bentham's intellectual disciple Henry Sidgwick famously said, "The good of any one individual is of no more importance, from the point of view of the Universe, than the good of any other."

Bentham himself believed that the good of animals should be taken into consideration in utilitarianism. The issue for him was not whether animals could reason (debatable) or talk (obviously not), but whether they could suffer (absolutely). An animal's capacity for suffering, argued Bentham, implied not necessarily that it should have rights equal to those of man, but that its pain should be given equal consideration when determining exactly what rights it had. It is from this perspective that animal rights can be most justified.

Obviously, it doesn't make sense to say that animals should have the right to free speech or the right to vote, because these are capacities the animal does not and cannot ever possess. But it would be sensible to say that animals have a right to be free from unnecessary pain or suffering. This view of animal rights would preclude many current practices, such as using animals to test new drugs and cosmetics and even perhaps the mass production of animals for food and clothing.

Interestingly, utilitarianism also provides opponents of animal rights with justification for their views. Since utilitarianism is based on calculations of the total good of the system, it is possible to see animal exploitation as adding to, rather than subtracting from, the sum of happiness. For instance, the death of one cow could presumably provide food and clothing for multiple people. This increase of happiness for the many at the expense of the few would satisfy the tenets of utilitarianism. Alternately, opponents could argue that since utilitarianism operates in a closed system, the negative effect of the death or suffering of one creature can be negated by the birth or pleasure of another creature. Since there are many times more animals that are born and live out their natural lives free from human-inflicted cruelty, the supposed suffering of those animals used for food, clothing, and experimentation is neutralized.

- 12. The word *province* as used in the passage MOST nearly means:
  - A. boundary
  - B. subdivision
  - C. responsibility
  - D. domain
- 13. A utilitarian who supported animal rights would believe an animal had the right to all of the following EXCEPT:
  - A. a right to be free from cruel and unnecessary actions
  - **B.** a right not to be used as a test subject
  - **C.** a right not to be confined in uncomfortable positions
  - **D.** a right to possess a secure habitat
- 14. The passage implies that Bentham and Sidgwick believe:
  - A. there is no privileged frame of reference in the world.
  - B. animal rights are just as important as human rights.
  - C. animals possess the capacity to reason.
  - D. animals possess the capacity to suffer.

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- 15. The author MOST likely included the parenthetical references in order to:
  - **A.** insert his or her personal beliefs into the discussion.
  - B. emphasize the factors Bentham thought most relevant.
  - **C.** present the viewpoint of animal rights supporters.
  - D. preempt possible objections to Bentham's logic.
- 16. The passage implies that utilitarianism could be used to justify all of the following EXCEPT:
  - A. the use of people as means to ends rather than ends in themselves
  - **B.** the death penalty
  - C. torture of dangerous criminals
  - **D.** indiscriminate killing
- 17. The primary purpose of the passage is to:
  - **A.** provide an ethical framework from which to view a controversial issue.
  - B. explain how utilitarianism can be used to justify animal rights.
  - C. argue for the end of cruelty to animals.
  - **D.** detail Bentham's and Sidgwick's views on animal rights.

Questions 18–23 are based on the following passage.

#### **Passage IV**

In literature, the period typically referred to as the 20th century actually begins in the previous century. To many, Queen Victoria's Jubilee in 1887 effectively marked the end of a literary epoch. The prevailing aesthetic sensibility, art for art's sake, was dying a slow death, as the gulf between artists and writers and the rest of the public widened, resulting in the widespread idea of the artist as one alienated from the rest of society. This viewpoint was spurred on by the bohemian culture movement, which arose in France and quickly spread. At its core, the bohemian movement scoffed at the limits placed on the individual by polite society and sought to isolate the artist from society as one who both rejects and is rejected by society.

Across the channel, developments in England further accentuated the separation of the artist from society at large. The Education Act of 1870 made elementary education mandatory, creating a massive class of literate, though still mostly uneducated, consumers. In response to this new market, new forms of entertainment were created, including the cheap and sensational "yellow press," which focused on scandal, crime, and other base aspects of human nature. Furthermore, publishers now divided up the literature audience into low, high, and middle "brow" members and churned out writing to satisfy the larger proportion of low- and middle-brow consumers. Although there has always been literature directed at specific audiences, the degree and the speed at which these audiences became fragmented occurred at an unprecedented rate in the early 20th century.

The emergence and mass production of such so-called popular literature provided more fodder for the artistic elite's war on the crude and unsophisticated philistines in the public square. Perhaps this divide and the artist's growing awareness of difference led to a prevalence of pessimism and stoicism in the literature of the late Victorian period. Hardy, Housman, and Stevenson—all of these writers expressed at least some form of overweening negativity or passivity in their prose and poetry.

The end of Victoria's reign brought Edward VII to the throne, and Edwardian England seemed to articulate all those qualities the artistic elite had grown weary of. Edward VII has been described as self-indulgent, and his 10-year regime was a boon to those who had the means to enjoy a life of idle pleasures. Although in the past artists and writers enjoyed the patronage of the royal family and other notables, now they strove to keep their distance from such decadence, perhaps to avoid contaminating their art, perhaps to further their sense of alienation from society.

The Edwardian period lasted a mere decade, the prevailing cultural mentality changed by the ascendancy of George V to the throne in 1910 and thoroughly extirpated by England's entry into World War I in 1914. With the advantage of hindsight, the Georgian period seems an especially crucial one, a necessary balancing point between the gilded nature of the Edwardian age and the somewhat artificial staidness of the Victorian period. It was in this brief four-year period that English literature held its breath, and when it exhaled, at the end of the Great War, the old order in Europe was no more.

- 18. In the context of the passage, the word *polite* means:
  - A. cultured
  - B. nice
  - C. affable
  - D. deferential
- 19. According to the passage, a bohemian would likely reject:
  - I. current fashion trends
  - II. prevailing mores
  - III. capitalistic thinking
  - A. I only
  - **B.** II only
  - C. I and III only
  - **D.** I, II, and III
- 20. The author implies that the Education Act of 1870:
  - A. increased the education level of the English population
  - B. led to more people attending secondary school
  - C. had mixed results
  - D. angered the artistic elite

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- 21. The passage indicates the 20th century differed from earlier artistic periods because:
  - A. artists viewed the public as crude and unsophisticated.
  - **B.** divisions in society were deeper than before.
  - **C.** the public was just as educated as the artists were.
  - D. artistic works were pessimistic and stoic.
- 22. The passage implies that Hardy, Housman, and Stevenson were all:
  - A. popular writers of the late Victorian period
  - **B.** influenced by the trends of their times
  - C. esteemed novelists
  - D. writing for low- and middle-brow audiences
- 23. The author's contention about the Georgian period would MOST be challenged if it were TRUE that:
  - A. after World War I, English literature entered a neo-Victorian phase.
  - **B.** writers in America continued to embrace French bohemianism.
  - C. writers and artists worked to reintegrate themselves into society.
  - **D.** the reign of George V came to an end.

Questions 24–30 are based on the following passage.

#### **Passage V**

Engineers and computer scientists are intrigued by the potential power of nanocomputing. Nanocomputers will use atoms and molecules to perform their functions instead of the standard integrated circuits now employed. Theorists believe that the amount of information a nanocomputer could handle is staggering.

A professor at MIT has attempted to calculate the computational limits of a computer with a weight of 1 kilogram and a volume of 1 liter. According to the laws of physics, the potential amount of computational power is a function of the available energy. Basically, each atom and subatomic particle in the computer has an amount of energy attached to it. Furthermore, the energy of each particle or atom is increased by the frequency of its movement. Thus the power of a computer that uses nanotechnology is bounded by the energy available from its atoms.

Specifically, the relationship between the energy of an object and its computation potential is a proportionate one. As Einstein has famously calculated, the energy of an object is equal to its mass times the speed of light squared. Thus a theoretical computer weighing a mere kilogram has a huge amount of potential energy. To find the total computational power, the minimum amount of energy required to perform an operation is divided by the total amount of energy.

The absolute minimum amount of energy required to perform an operation is determined by Planck's constant, an extremely tiny number. Dividing the total amount

of energy possessed by a 1-kilogram computer by Planck's constant yields a tremendously large number, roughly  $5 \times 10^{50}$  operations per second. Using even the most conservative estimates of the computing power of the human brain, such a computer would have the computational power of five trillion trillion human civilizations. The computer would also have a memory capacity, calculated by determining the degrees of freedom allowed by the state of all the particles comprising it, of  $10^{31}$  bits.

These numbers are purely theoretical, however. Were the computer to convert all of its mass to energy, it would be the equivalent of a thermonuclear explosion. And it is unreasonable to expect human technology to ever achieve abilities even close to these limits. However, a project at the University of Oklahoma has succeeded in storing 50 bits of data per atom, albeit on only a limited number of atoms. Given that there are 10<sup>25</sup> atoms in 1 kilogram of material, it may be possible to fit up to 10<sup>27</sup> bits of information in the computer. And if scientists are able to exploit the many properties of atoms to store information, including the position, spin, and quantum state of all its particles, it may be possible to exceed even that number.

One interesting consequence of such staggering increases in computing power is that each advance could provide the basis for further evolution. Once technology can achieve, for instance, a level of computation equal to 10<sup>40</sup> operations per second, it can use that massive power to help bring the theoretical limit ever closer.

- 24. The central thesis of the passage is:
  - A. computing power is limited only by the laws of physics.
  - B. new advances in computer technology allow for staggering levels of memory and computational ability.
  - C. it may not be possible to achieve the theoretical limits of computing power.
  - **D.** computers using nanotechnology have the potential to tap vast quantities of
- 25. The author mentions "thermonuclear explosions" in order to:
  - A. indicate that some of the previous discussion is not practical.
  - **B.** warn of a potential consequence predicted by Einstein's equation.
  - **C.** show a design flaw in the proposed computer.
  - **D.** point out an absurd result of the previous discussion.
- 26. The author of the passage indicates that:
  - A. the theoretical computer may have even more computational power than described.
  - **B.** technicians have already built computers that can store  $10^{27}$  bits of data.
  - C.  $10^{27}$  bits of data is the theoretical limit of memory capacity in a computer.
  - **D.** the technology exists to create a computer that can perform  $10^{40}$  operations per second.

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- 27. According to the passage, why does the author believe that the theoretical limit of computational power may be approached?
  - A. Scientists can exploit many different properties of atoms.
  - B. Technological advances engender more advances.
  - C. Computers only require a minimal amount of energy.
  - **D.** Recent advances have shown the technology exists to reach the limit.
- 28. The ideas in this passage would MOST likely be presented in:
  - A. an academic journal
  - B. a newspaper
  - C. a tabloid
  - D. a popular science magazine
- 29. According to the information in the passage, which of the following could increase the computational power of the theoretical computer?
  - A. increasing the amount of energy it takes to perform an operation
  - **B.** decreasing the volume of the computer
  - C. decreasing the amount of energy it takes to perform an operation
  - D. decreasing the mass of the computer
- 30. The project at the University of Oklahoma indicates:
  - A. current information-storing technology is still in its infancy.
  - B. researchers are close to achieving the predicted memory capacity.
  - **C.** scientists have learned how to use different aspects of the atom to store information.
  - **D.** work on reaching the theoretical limits of computation power is now underway.

Questions 31–37 are based on the following passage.

#### Passage VI

Language consists of three main parts. The first is simply vocabulary, the lexicon of words available to the speaker to describe particular concepts, actions, and states. The second part is morphology, the set of rules that dictates how words and parts of words may be combined to form other words. The final part of language is syntax, the rules that combine words into phrases and sentences. It is morphology that we shall turn our attention to first.

Morphology has two major subdivisions. They are derivation and inflection. Derivation refers to those rules by which new words may be formed out of preexisting words. Inflection, sometimes referred to as conjugation and declension, states how words are changed to indicate their function within a sentence.

Although common mythology holds that English is one of the most difficult languages to learn, many linguists would beg to differ. In fact, when it comes to inflection

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English is almost juvenile in its simplicity when compared to other languages. For example, Spanish verbs have about 50 forms, unique combinations that indicate the first, second, and third person; whether a verb is singular or plural; whether the verb is in the past, present, or future tense; and any number of moods, including the indicative, the conditional, the subjunctive, the imperative, and others. Languages from outside the Indo-European family tree may be even more complex. The Bantu language of Kivunjo has roughly half a million combinations of prefixes and suffixes for a verb. English, however, has a mere four combinations. A verb such as *to walk* is limited to the following forms: *walk*, *walks*, *walked*, and *walking*.

Although there are only four basic verb forms, the English language does have more than 13 possible inflections. It just makes do with these four forms for the various functions. English also differs significantly from many other Indo-European languages in that in English, the stem of the word can be pronounced and is in fact part of the language. In Spanish, the stem of the verb *to walk* is *camin*-, but this is not a word in the language. In order to pronounce this word, it must be conjugated and combined with a suffix. English uses the stem form of the verb for four inflections: the present tense (except for the third-person singular), the infinitive, the imperative, and the subjunctive. The verb form ending in -s is used in only one case, the third-person singular.

The two possible verb suffixes, *-ing* and *-ed*, are put to use in a variety of ways as well. The *-ing* ending appears in the progressive participle, the present participle, the gerund form, and the verbal adjective form. That leaves the *-ed* form to handle the remaining inflections, including the past tense, the perfect participle, the passive participle, and some verbal adjectives.

Why are there so many different inflections for verb forms that basically sound the same? Simply put, the meanings implied by the various moods are different, even if the words used are fairly similar. Compare the meaning conveyed by the simple past tense (*he walked*) to the meaning inherent in the perfect participle (*he has walked*).

- 31. The central thesis of the passage is that:
  - A. English is easier to learn than many other languages.
  - **B.** each language is unique in its major forms.
  - C. the English language uses a minimum of verb forms in its inflections.
  - **D.** the English language is not as rich in meaning as other languages.
- 32. The passage suggests that the author MOST likely believes that:
  - A. the English language does not suffer from its lack of inflections.
  - **B.** English is the only language in which the verb stem is a word.
  - **C.** English is not as hard to learn as many think.
  - D. at one time the English language had more inflections.

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- 33. Which of the following assertions does the author support with an example?
  - I. The English language is relatively simple in its inflections.
  - II. The English language is not as hard to learn as some believe.
  - III. Inflections in the English language can convey a variety of meanings.
  - A. I only
  - B. III only
  - C. I and III only
  - D. II and III only
- 34. The ideas presented in this passage would probably be MOST interesting to:
  - A. linguists
  - **B.** language teachers
  - C. psychologists
  - **D.** translators
- 35. The passage indicates that a native Spanish speaker may be puzzled by the verb *to see* in which of the following sentences?
  - A. I saw the car.
  - **B.** They want to see the car.
  - **C.** She sees the car.
  - D. Seeing is believing.
- 36. According to the passage, which English inflection can be expressed by two different verb suffixes?
  - I. the present tense
  - II. the verbal adjective
  - III. the present participle
  - A. I only
  - B. I and II only
  - C. III only
  - D. I, II, and III
- 37. The Russian language is similar to the Spanish language in that the verbs have stem forms that are not words unto themselves. From this fact, a linguist might infer that:
  - A. Russian verbs have roughly 50 forms.
  - **B.** the Russian language may be of the Indo-European family.
  - C. Russian is harder to learn than Spanish.
  - **D.** the Russian language has more inflections than the English language.

Questions 38–44 are based on the following passage.

#### **Passage VII**

The man whom Franklin Delano Roosevelt christened "The Happy Warrior" in a nominating speech would later become a thorn in Roosevelt's side. Some thought the switch in loyalties was sour grapes, but others saw Alfred E. Smith as the epitome of William

Wordsworth's "happy warrior" and therefore a man who "makes his moral being his prime care"—one who never made a move without consulting his conscience.

Alfred E. Smith was both a successful politician and an unsuccessful one. A four-term governor of New York State, he seemed a sure candidate for president, and indeed he ran three times for that position, only to lose each time.

He had several strikes against him. He was the Catholic son of Irish and Italian-German immigrants, making him anathema to nativists, the xenophobes who underwent a resurgence in the 1920s. He was from New York City, viewed even in the early twentieth century as disconnected from the national character. He was a progressive, which made conservatives of all stripes nervous. And he favored the repeal of Prohibition, a position that lost him the backing of many party leaders.

Who was this unlikely candidate? Born Alfred Emanuel Smith in 1873, Smith grew up on the Lower East Side of Manhattan. His father died when Smith was young, and the boy dropped out of school to take care of the family. At age 21, Smith supported a losing candidate in a local race and came to the attention of New York politicos, who took him under their wing. Nine years later, he ran successfully for the New York State Assembly, where he rapidly rose in the ranks to become Majority Leader and finally Speaker. He played a pivotal role in the revamping of New York's Constitution, was elected sheriff of New York County, and then ran for governor in 1918, winning handily. Although he lost a re-election bid two years later, he surged back in 1922 and would remain in the governor's seat for six more years. His terms were marked by unparalleled improvements in labor laws and laws protecting civil liberties, for Smith's goal was to support those he saw as most in need of government's assistance.

In this goal, he was allied with Franklin Roosevelt, and the two were close enough that Roosevelt nominated Smith for president in 1924. The Drys, or Prohibitionists, backed William McAdoo, a son-in-law of former President Woodrow Wilson. Smith's supporters and McAdoo's supporters were so far apart that finally a compromise candidate, John Davis, was nominated and promptly lost the general election to Calvin Coolidge.

In 1928, Smith received his party's nomination on the second ballot, but along with his anti-Prohibition leanings, his religion became a major issue during the campaign, paving the way for Herbert Hoover to win the general election. Meanwhile, Smith had arranged for the nomination of his New York colleague, Franklin Roosevelt, to be governor of New York. Although Smith lost his bid, Roosevelt did not.

Then came the Depression, and the election of 1932. Backroom dealings ensured that Franklin Roosevelt won the nominating process, with another would-be presidential candidate in the vice presidential spot on the ticket. Smith was left out in the cold on his third try for the presidency. Despite his former regard for Roosevelt, he began to work hard, if unsuccessfully, to defeat the New Deal. He supported two Republicans rather than Roosevelt in the 1936 and 1940 elections, and he died in 1944, a man who had never reached his desired goal, yet had inspired many of the changes for which his rival is now known.

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- 38. One important argument of the final paragraph is that:
  - **A.** Roosevelt would have done better with Smith at his side.
  - **B.** the New Deal was anothema to someone with Smith's ideals.
  - C. Smith's background made him an improbable candidate.
  - **D.** Smith deserves credit for many of Roosevelt's successes.
- 39. The passage implies that being from New York City is bad for a national candidate because:
  - **A.** urban candidates have trouble relating to those in the heartland.
  - **B.** New York is perceived as too different from the rest of the country.
  - **C.** westerners rarely support or give money to eastern candidates.
  - **D.** New York is the center of liberalism, but candidates must be neutral.
- 40. The passage suggests that Roosevelt's change of heart toward Smith was influenced by:
  - A. ethics
  - **B.** spitefulness
  - C. miscommunication
  - D. ambition
- 41. The mention of nativists shows primarily that:
  - **A.** only those born in the United States are eligible for the presidency.
  - **B.** bigotry figured into politics in the early twentieth century.
  - C. Prohibition was a critical issue for many urban voters.
  - **D.** a candidate for national office must embrace religion.
- 42. According to the passage, why did John Davis win the Democratic nomination in 1924?
  - **A.** He was not as far to the left as Smith.
  - B. He was a Prohibitionist like McAdoo.
  - **C.** He had the support of a former president.
  - **D.** He was acceptable to Smith and McAdoo supporters.
- 43. The author's claim that Smith was a successful politician is supported by:
  - A. the explanation of his sobriquet, "The Happy Warrior"
  - B. a review of his work in the Assembly and governor's office
  - C. descriptions of his three runs for the presidency
  - D. a list of the famous names that supported his candidacies
- 44. If Smith were to run for office today on a platform similar to his original plan, which of the following outcomes would MOST likely occur?
  - **A.** He would be supported by Progressives and union leaders.
  - **B.** He would be opposed by civil libertarians.
  - C. He would be supported by those who favor immigration reform.
  - **D.** He would be opposed by those who support social welfare programs.

This is the end of the Critical Analysis and Reasoning Skills Minitest.

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### Critical Analysis and Reasoning Skills Minitest **Answers and Explanations**

- 1. The correct answer is D. This question has to do with Interpreting Vocabulary. Your first step in answering it is to scan the passage to find the word *elusive*. It appears in paragraph 2, in the context of qualities of happiness. It is not used in a negative connotation, as choices A and B (both synonyms for lying) would indicate. Choice C doesn't work with the other quality of happiness, which is mysterious. Something that is frank, or honest and forthright, cannot also be mysterious. Choice D is therefore the best answer.
- 2. The correct answer is C. You need to Assess Evidence for this question. Since authors ideally use examples to support their statements, you need to find the information that explains why Watson's study was thought to be startling. By scanning paragraph 2 for the exact reference, you will find that the second sentence contains the answer: "Since happiness was considered a highly desired yet elusive and mysterious emotion, Watson's serious endeavor was startling." This is a clear giveaway that choice C is correct.
- 3. The correct answer is B. This question asks you to Locate Details within the passage. If one statement stands out as false, you can eliminate all other answer choices. But often, it is easier to answer this type of question by eliminating the true statements. The last two sentences of paragraph 3 contain the information in choice A, so you can eliminate it. Paragraph 5 corresponds with choice C, and paragraph 4 corresponds with choice D. Choice B is the correct answer because the passage states that "findings show the mind-body connection cannot be denied," and not that science is attempting to prove the connection.
- 4. The correct answer is A. You are asked to Identify Cause and Effect as it is implied in the passage for this question. Note that the example of a subject repeating the phrase, "I am successful" does not appear in the passage. However, the last paragraph notes that repetition of a positive affirmation can lead to an increase in left cerebral cortex activity and increased feelings of happiness and well-being. "I am successful," is such an affirmation, and you could expect choice A, a feeling of well-being, to be the outcome following its repetition.
- 5. The correct answer is C. This question looks at Cause and Effect, not as directly presented in the essay, but rather as implied by the essay. Whittier and Holmes are mentioned once, as contemporaries of Longfellow, who also employed similar themes and rhymes. Since Longfellow's reputation is said to suffer because of these very themes and rhymes, it may be implied that the reputations of Whittier

PART 2: Critical Analysis and Reasoning Skills and Holmes suffer a similar fate. There is no evidence in the passage to support choice A, so it should be eliminated. Choice B is too negative; neither Longfellow nor Whittier and Holmes are said to be held in contempt or disdain. Choice D is in opposition to the ideas found in the passage. Modern poetry is influenced by Whitman, not Longfellow, Whittier, and Holmes. Choice C works best, with "antiquated" echoing paragraph 1's "quaint and primly Victorian."

- 6. The correct answer is B. You are asked to Find the Main Idea in this question. This type of question is passage-based, meaning you should focus on what is actually said as opposed to what may be implied or suggested. To answer it, ask "What is the author trying to say?" Typically, at least one answer choice is not found within the passage. In this case, choices C and D can be easily eliminated for that reason—neither is stated. Another type of distracter is an answer choice that is too narrow to be the main idea of the passage. Choice A is a good example; the passage encompasses much more than a simple comparison of free verse as opposed to rhymes. You are left with choice B, which is the correct answer.
- 7. **The correct answer is A.** This question asks you to **Assess Evidence**. To answer it, first note the hypothesis as stated in the question stem: Whitman was responsible for the radical shift in American poetry. Then determine which statements support it and which one does not. The one that does not is the correct answer. The fact that his poetry was personal and intimate (choice B) supports the hypothesis, as does his use of free verse (choice D). Choice C, choosing as his subjects the common man and commonplace events, also supports the hypothesis. Nowhere in the passage does it state that Whitman used iconic American figures as his subjects; in fact, that is what Longfellow did, and his poetry was what Whitman's shifted away from. That means choice A is correct.
- 8. **The correct answer is D.** To answer this question, you need to **Interpret Vocabulary**. Find the phrase in the passage and examine it in context. The sentence in paragraph 1 in which it is found reads, "Why do his contemporaries continue to be enjoyed and studied while Longfellow languishes in the tomb of cultural artifacts?" There is a dichotomy set up between continuing to be enjoyed and studied and languishing in the tomb of cultural artifacts. Being in "the tomb of cultural artifacts" is therefore the opposite of being enjoyed and studied. Only one answer choice relates to the idea of this dichotomy; if Longfellow's work is "considered to be dead," it is surely not being enjoyed and studied. Choice D is the best answer.
- 9. **The correct answer is B.** In this question, you are **Drawing Conclusions** about the author's intent, choosing the best or most likely answer. Sales figures for Longfellow's poems about iconic American figures are cited as facts, and not

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implied to be an apparent belief of the author, making choice A incorrect. While Emerson is revealed to be an influence on Whitman, there is nothing in the passage to suggest that he could be considered by the author to be the Father of American Poetry (in fact, he is not mentioned as being a poet), making choice C incorrect. The passage clearly delineates throughout the vast differences between the work of Longfellow and confessional poetry; therefore, choice D must also be wrong. The terms the author uses to describe Whitman and his work in the last paragraph ("ground-breaking," "legacy") enforce his view that Whitman's poetry is more popular than Longfellow's (that resides in a "tomb").

- 10. The correct answer is D. This question asks you to Apply New Evidence to an existing argument. The new evidence is an ambivalent statement by Ezra Pound, in which he both declares his distaste for much of Whitman's work while still admiring it enough to imitate it. The author declares that Pound celebrated his debt to Whitman, which is neither repudiated nor endorsed (choices A and B) by Pound's ambivalence. Similarly, the second part of the statement (regarding imitation) does not deny the author's contention. Choice D is the correct answer because it identifies the passage's use of *celebrate* as too positive a word in light of Pound's "pain" in reading Whitman.
- 11. The correct answer is D. This kind of question asks you to Choose an Accurate Summary. The sales figures are cited to back up the author's assertion that Longfellow's poems were "incredibly popular" (choice D). Choice C is a tricky diversion; while the author does note that sales figures for The Song of Hiawatha were "astounding for the time," he does not state or infer that those numbers marked a milestone.
- 12. The correct answer is D. This question asks you to Interpret Vocabulary. In the context of the passage, the word province is used to indicate something that belongs only to humans and to no other living creatures. The answer choice closest in meaning to this is choice D, "domain." Choices A and B are part of the definition of the word province, but they are not how the word is used in this context. The passage states that some believe rights are appropriate only for humans, but says nothing about responsibility as choice C says.
- 13. The correct answer is D. For this question, you'll have to use the information in the passage to Make Predictions. Based on the information in the passage, you need to predict which of the rights in the answer choices a utilitarian would not believe an animal has. The fifth paragraph states that a utilitarian would believe that animals had a right to be free from unnecessary pain and suffering, but that they may not have rights that they don't have the capacity to possess. Choices A, B, and C all indicate actions that would cause the animal pain or suffering. But an animal does not have the right to possess anything, since property is a human concept. This makes choice D the best answer.

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- 14. **The correct answer is A.** You'll have to **Draw Conclusions** to answer this question. Look back at the passage to find what Bentham and Sidgwick believe. Bentham states that the interests and desires of the members of a system are all equal; Sidgwick states that the Universe treats all goods as equal. Thus choice A is the best answer. Choice B is unsupported because although the passage states that Bentham believes animals should have equal consideration, it is not clear that Sidgwick believes that. The passage states that Bentham is unconcerned with the issue of whether animals can reason, so his view on it is unknown, as is Sidgwick's, which eliminates choice C. And it is not clear what Sidgwick believes about whether animals have the capacity to suffer (choice D).
- 15. **The correct answer is B.** This question asks you to **Analyze an Argument**. Remember that everything an author includes in a passage is there for a reason. What role do the parenthetical inserts play in the development of the author's thesis? The discussion of Bentham indicates that Bentham is focusing not on issues of reason or speech—which are unimportant—but on the capacity to suffer, which is the key point. Choice B reflects this sentiment. There is no evidence to support choice A. The views discussed are Bentham's, not those of animal rights supporters (choice C). And the inserts serve to emphasize the important point of Bentham's argument, not to head off possible objections as in choice D.
- 16. The correct answer is D. Again, you'll have to Make Predictions to answer this question. Use the information the passage provides on utilitarianism to predict which situation could not be justified. Choice A is okay because the passage states that as long as the sum total of happiness increases, the action is okay. Thus in certain circumstances it may be necessary to use an individual in such a way that benefits many others. Choice B can be justified because the death penalty may increase the overall good by ridding the world of a dangerous person. Similarly, torture (choice C) may be justified if it saves the lives of other people. However, indiscriminate killing is not acceptable to a utilitarian. The killing would have to be directed to somehow increasing the good of other people.
- 17. **The correct answer is A.** This question asks you to **Find the Main Idea**. The passage states that there is a debate about the validity of animal rights and utilitarianism and provides a framework from which both advocates and opponents of animal rights may view the situation. This is what choice A states. The passage does show how to justify animal rights, as choice B states, but it also shows how to justify not having animal rights. Choice C is wrong, because the passage presents arguments for both positions. And choice D is wrong, because although Bentham's and Sidgwick's views are mentioned, their ideas form only one part of the larger debate.

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- 18. The correct answer is A. You are asked to Interpret Vocabulary for this question. The sentence states that the bohemian culture rejected limits placed on the society. A cultured person recognizes the standards agreed on by society for certain behaviors and so a bohemian would reject them. Although the word *polite* could be used to mean the words in choices B, C, and D, this is not how the word is used in this context.
- 19. The correct answer is D. The question asks you to Make Generalizations. In general, the bohemian is against limits placed on the individual by society. Current fashion trends represent one way a society may limit an individual by dictating what sort of dress is acceptable. The prevailing mores of a society are the values that the society at large deems appropriate. Capitalism is also a product of the society, and a bohemian would reject thinking in the same way as the rest of the people. Thus all three statements are appropriate, and choice D is the best answer.
- 20. The correct answer is C. For this question, you must Draw Conclusions. The author does not directly state choice C, but implies it by saying that the Education Act led to a literate, although not necessarily educated, public. This part of the passage also makes choice A incorrect. Choice B is not supported, because the act dealt only with elementary education. Choice D cannot be inferred. It is true that the author believes the act furthered the gulf between artist and public, but it is not clear whether artists were angry about it.
- 21. The correct answer is B. This is a fairly straightforward question asking about Supporting Details. The answer is found at the end of paragraph 2, where the author states that the degree to which the audiences were fragmented occurred at an unprecedented rate. This supports choice B. There is no support for the other choices in the passage.
- 22. The correct answer is B. This is another question asking you to Draw Conclu**sions**. The author states that the late Victorian period was marked by pessimism and stoicism and that the authors mentioned all demonstrated such sentiments. Thus it can be concluded that they were influenced by the trends of their time. It is not clear whether they were popular or esteemed, as choices A and C indicate. Nor does the passage state what audience they wrote for, which means choice D is not supported.
- 23. The correct answer is A. This is a question that asks you to Modify Conclusions. The author contends that after the Georgian period, the old European order was no more. However, if the literature returned to its old Victorian ways, as choice A indicates, the author's conclusion would be incorrect. The developments in America detailed in choice B would be irrelevant to the author's argument. If the artists reintegrated into society as in choice C, it would indicate a change in the

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- prevailing system, not a return to old ways. Choice D also is immaterial to the argument.
- 24. The correct answer is C. This question asks you to Find the Main Idea. This passage explains that theoretically, there is a massive amount of computational power available. However, practical considerations make it unlikely that this limit would ever be reached. Thus choice C is the best answer. Choice A is a detail provided in the passage, but it is not the main idea. Choice B is incorrect, because the advances discussed are still primarily theoretical. Choice D is also only partly correct, because it doesn't deal with the practical limits mentioned in the passage.
- 25. The correct answer is A. This question asks you to Analyze an Argument. The author mentions thermonuclear explosions in the same sentence in which he states that the discussion of computing power is purely theoretical. Choice A best reflects this. No other answer choice is supported by the information in the passage.
- 26. The correct answer is A. You are asked to Draw a Conclusion in order to answer this question. The author indicates that choices B and D are still in the realm of the theoretical. The author also states that the memory limit in choice C may be "exceeded." That leaves choice A, which is supported when the author states that the calculation of the computer's power is based on "the most conservative estimates" of human computational power. Thus the proposed computers can be even more powerful then the author describes.
- 27. The correct answer is B. This question asks about Supporting Details and Evidence. Go back to the passage and find why the author believes technology may reach the theoretical limit discussed. In the last paragraph, the author indicates that each technological advance provides the basis for further evolution, as choice B states. Choice A refers to the author's discussion of memory capacity, not computational power, and indicates a way technicians may exceed the theoretical limits described. Choice C has nothing to do with reaching the theoretical limits of computational power. The technology to reach the limits does not yet exist, as choice D seems to indicate.
- 28. The correct answer is D. This question requires you to Combine Information. The passage discusses computers, technology, and even physics. However, the information is presented at the level of someone with a casual, rather than expert, knowledge of these fields. Thus choice D would be the best answer. Choice A may be close, but the information in the passage is not written at the level of expertise that a reader would expect in an academic journal.
- 29. The correct answer is C. The question asks you to Solve a Problem. To answer it, you must first understand how computational power is calculated. The passage states that the power is found by dividing the total energy by the energy required

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- for an operation. Decreasing the amount of energy, as in choice C, would yield a larger quotient. Choice A would do the opposite, while choices B and D would decrease the total energy available.
- 30. The correct answer is A. This question asks you to Draw a Conclusion. Based on the information in the passage, choice A is the best choice. The passage indicates that thus far, researchers have only been able to store information on a few atoms. Choice B is practically the opposite of what the passage states, while the information in choice C is suggested by the author as a way to exceed the theoretical memory limit. The work at the University of Oklahoma relates to memory capacity, not computing power as choice D indicates.
- 31. The correct answer is C. This question asks you to Find the Main Idea. This passage discusses the basic structure of language and specifically a feature of the English language, namely its paucity of verb forms. Choice C is the best summary of the passage. Choice A is not the main idea of the passage at all. Choice B is too strong. It is not stated that each and every language is unique. Choice D is wrong because the passage states the English language is able to convey a number of meanings even though its verb forms are limited.
- 32. The correct answer is A. This application question asks you to Draw Conclusions. The author states that the English language makes do with fewer verb forms than other languages, but it still can convey different meanings. This makes choice A correct. Choices B and D are not supported by the passage, while choice C reflects what some linguists believe.
- 33. The correct answer is C. This question involves Analyzing an Argument. Statement I is supported by the examples of the Spanish language and the Kivunjo language, which have far more forms than the English language. Statement II is unsupported by a specific example. Statement III is supported by the example in the final paragraph of the different meanings of similar-sounding verb forms, which makes choice C the best answer.
- 34. The correct answer is B. In order to answer this question, you'll need to Combine Information. The passage provides interesting information on language and specifically on the English language. However, it is not directed at linguists (choice A), who presumably would already know much of the information. A language teacher (choice B) would most likely find the information interesting background to a language lesson. It is not clear what psychologists would find interesting in the passage. Translators may find the information interesting, but nothing in the passage pertains specifically to translation, so choice B is a better answer.
- 35. The correct answer is B. This question tests your ability to Make Predictions. Based on the information in the passage, you need to predict which sentence may strike a Spanish speaker as odd. The passage states that in Spanish, the stem of the verb is not a word. In English, one use of the stem of the verb is in the infinitive

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- form, as used in choice B, "to see." The past tense (choice A), the third-person singular (choice C), and the gerund form (choice D) all involve changing the stem, which is similar to the Spanish language.
- 36. **The correct answer is B.** This question asks about **Supporting Details**. The passage states that the present tense (statement I) is usually expressed using the stem form of the verb but can also be expressed in the third-person singular by using the -s suffix. Similarly, verbal adjectives (statement II) are sometimes expressed using the -ing suffix and sometimes with the -ed suffix.
- 37. **The correct answer is B.** This question requires you to **Draw Conclusions**. From the information in the passage, what can be concluded about the Russian language? Its lack of pronounceable stems for its verbs makes it similar to Spanish and different from English. Furthermore, the passage states that English is unlike many Indo-European languages in its use of the stem form as a word. From this information, a linguist may conclude that Russian might (but not necessarily) be part of the Indo-European family. Just because the stem forms are not pronounced gives no information on the number of forms as choice A states. Choice C is not a valid inference based on the information in the passage. The lack of pronounced stem verbs says nothing about the number of inflections, which are the ways a word changes when taking on different roles in the sentence.
- 38. **The correct answer is D.** You are asked to **Find the Main Idea** of the last paragraph. In the last paragraph, the author states that Smith "had inspired many of the changes for which his rival is now known." His rival was Roosevelt, and the implication is that Roosevelt took credit for many ideas that began with Smith. There is no indication that Roosevelt would have done better on a ticket with Smith (choice A), and Smith's background is not a topic of this paragraph (choice C). Contrary to choice B, many of Smith's ideals were those that formed the foundation of the New Deal.
- 39. **The correct answer is B.** Although choice A may be true, only choice B is alluded to in the passage, allowing you to **Draw Conclusions**. New York City, says the author, was "viewed even in the early twentieth century as disconnected from the national character."
- 40. **The correct answer is D.** Without knowing more about the two rivals, any one of these answers might be possible, but the only one that is supported by the text is choice D. Roosevelt's ambition led to political maneuvering that shut Smith out of the nomination. This is a **Cause-and-Effect** question.
- 41. **The correct answer is B.** The discussion of nativism shows that Smith was not a credible candidate to many because of his Catholic immigrant background. It has nothing to do with his eligibility (choice A); it has to do with the bigotry of the electorate. This is an example of **Interpreting Vocabulary**.

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- 42. The correct answer is D. Either choice A or choice B might be true, but neither is supported by a Cause-and-Effect relationship presented in the text. Davis was chosen as a "compromise candidate" when the delegates failed to choose between Smith and McAdoo.
- 43. The correct answer is B. The author presents Supporting Details about Smith's many successes in the state of New York, from his work as Speaker of the Assembly to his many years as governor. Choice A does not support the claim that he was successful, and choice C actually belies the claim. The list of names mentioned in choice D does not exist in the passage.
- 44. The correct answer is A. Smith was a progressive born of immigrant parents, and he supported both civil liberties and unions as well as "those he saw as most in need of government's assistance." Of the answers given, only choice A is likely. This question requires you to Combine Information.

## **Notes**

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