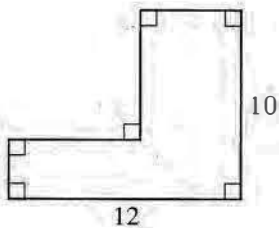


CALORIES YIELDED  
FROM NUTRIENTS

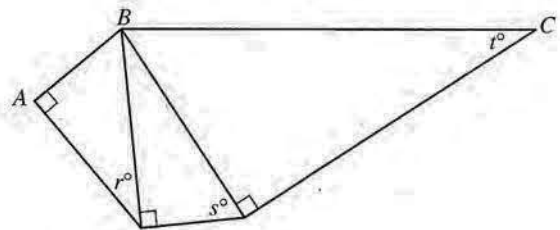
Nutrient	Calories per Gram
Carbohydrates	4
Protein	4
Fat	9

11. According to the table above, what is the total number of calories yielded from 200 grams of protein and 100 grams of fat?



12. What is the perimeter of the six-sided figure above?

13. For a dog that weighs  $w$  pounds and is  $x$  inches long to qualify for a certain competition, the difference between  $w$  and  $\frac{3}{2}x$  can be no more than 5. If a dog with length 24 inches qualifies for the competition, what is one possible weight, in pounds, of this dog?



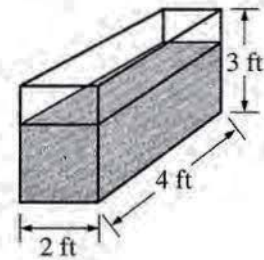
14. In the figure above,  $\angle ABC$  has measure  $140^\circ$ . What is the value of  $r + s + t$ ?

GO ON TO THE NEXT PAGE 

$$x + y + z = 500$$

$$x - y - z = 200$$

15. According to the equations above, what is the value of  $y + z$ ?



17. The inner dimensions of a closed rectangular tank are shown in the figure above. There is 16 cubic feet of water in the tank. The tank will be repositioned on level ground so that it rests on one of the faces that has the least area. What will be the height, in feet, of the water after the tank has been repositioned?

16. In the  $xy$ -plane, the line with equation  $y = 8 - \frac{4}{3}x$  intersects the  $x$ -axis and  $y$ -axis at the points  $A$  and  $B$ , respectively. What is the length of line segment  $\overline{AB}$ ?



18. On the number line above, tick marks are spaced so that the distance from  $a$  to  $b$  is twice the distance from  $b$  to  $c$  and the distance from  $b$  to  $c$  is twice the distance from  $c$  to  $d$ . If  $a$ ,  $b$ ,  $c$ , and  $d$  are positive integers, what is the smallest possible value of  $d$ ?

**STOP**

If you finish before time is called, you may check your work on this section only.  
Do not turn to any other section in the test.

**SECTION 8**

Time— 20 minutes

19 Questions

**Turn to Section 8 (page 7) of your answer sheet to answer the questions in this section.****Directions:** For each question in this section, select the best answer from among the choices given and fill in the corresponding circle on the answer sheet.

Each sentence below has one or two blanks, each blank indicating that something has been omitted. Beneath the sentence are five words or sets of words labeled A through E. Choose the word or set of words that, when inserted in the sentence, best fits the meaning of the sentence as a whole.

**Example:**

Hoping to ----- the dispute, negotiators proposed a compromise that they felt would be ----- to both labor and management.

- (A) enforce . . useful  
 (B) end . . divisive  
 (C) overcome . . unattractive  
 (D) extend . . satisfactory  
 (E) resolve . . acceptable

A  B  C  D  E

- Marie Curie is ----- among female Nobel Prize winners: she alone has been honored in two different fields.  
 (A) unique (B) unsung (C) immune  
 (D) resigned (E) helpless
- John Updike's literary ----- was -----: it included novels, short stories, essays, poetry, criticism, children's books, and more.  
 (A) output . . diverse  
 (B) technique . . limited  
 (C) analysis . . generic  
 (D) achievement . . minimal  
 (E) judgment . . commonplace
- While most pets are relatively ----- in a veterinarian's office, occasionally vets have to treat more aggressive animal patients.  
 (A) fastidious (B) defensive (C) surreptitious  
 (D) docile (E) diminutive
- Biodemographer S. Jay Olshansky regards commercial products that promise to stop aging as -----, arguing that while these nostrums might possibly ----- some of aging's superficial manifestations, they cannot touch the process at its core.  
 (A) humbuggery . . elude  
 (B) foreshadowing . . thwart  
 (C) quackery . . forestall  
 (D) sophistry . . enhance  
 (E) balderdash . . mimic
- Rosario ----- on the problem at length, but no amount of extended reflection could provide her with a satisfactory solution.  
 (A) collaborated (B) extemporized  
 (C) expounded (D) expostulated  
 (E) ruminated
- Because Russell was such a memorable and ----- public speaker, many people mistook his ability to talk about a wide range of topics for genuine -----.  
 (A) enervating . . inquisitiveness  
 (B) charismatic . . animosity  
 (C) fluent . . evasiveness  
 (D) daunting . . diffidence  
 (E) adroit . . erudition



The passage below is followed by questions based on its content. Answer the questions on the basis of what is stated or implied in the passage and in any introductory material that may be provided.

**Questions 7-19 are based on the following passage.**

*The passage is adapted from a 2009 book about traffic.*

When driving began, it was like a juggernaut, and we have rarely had time to pause and reflect upon the new kind of life that was being made. When the first electric car debuted in mid-nineteenth-century England, the speed limit was hastily set at four miles per hour: the speed at which a man carrying a red flag could run ahead of a car entering a town, an event that was still a quite rare occurrence. It was probably also the last time the automobile existed at anything like human speed or scale.

At first, cars simply joined the chaotic traffic already in the street, where the only real rule of the road in most North American cities was “keep to the right.” In 1902, William Phelps Eno, who would become known as “the first traffic technician in the world,” set about untangling the strangling miasma that was New York City’s streets. Eno proposed a series of “radical ordinances” to rein in New York’s traffic, a plan that seems hopelessly quaint now, with instructions such as the “right way to turn a corner.” But Eno, who became a global celebrity of sorts, boating off to Paris and São Paulo to solve local traffic problems, was as much a social engineer as a traffic engineer, teaching vast numbers of people to act and communicate in new ways, often against their will.

In the beginning this language simply served to confuse. In one town, the blast of a policeman’s whistle might mean stop, in another go. A red light indicated one thing here, another thing there. The first stop signs were yellow, even though many people thought they should be red. As one traffic engineer summed up early-twentieth-century traffic control, “There was a great wave of arrow lenses, purple lenses, lenses with crosses, etc., all giving special instructions to the motorist, who, as a rule, hadn’t the faintest idea of what these special indications meant.” The systems we take for granted today required years of evolution and were often steeped in controversy. Were red and green even the right colors for traffic lights? In 1923 it was pointed out that approximately one in ten people saw only gray when looking at a traffic signal, because of color blindness. Might not blue and yellow, which almost everyone could see, be better? Or would that create catastrophic confusion among those who had already learned red and green? Despite all the uncertainty, traffic engineering soon hoisted itself onto a wobbly pedestal of authority, even if, as the transportation historian Jeffrey Brown argues, engineers’ neutral-sounding scientific ideology, which compared “curing” congestion to fighting disease, reflected the desires of a narrow band of urban elites (i.e., car owners). Thus it was quickly established that

the prime objective of a street was simply to move as many cars as quickly as possible: an idea that obscured, as it does to this day, the many other roles of city streets.

After more than a century of tinkering with traffic, plus years of tradition and scientific research, one would think that all these issues would have been smoothed out. And they have been, largely. We drive in a landscape that looks virtually the same wherever we go: a red light in Morocco means the same thing as it does in Montana. We drive on highways that have been so perfectly engineered that we forget we are moving at high speeds. Indeed, we are sometimes barely aware of moving at all.

For all this standardized sameness, though, there is much that is still simply not known about how to manage the flows of all those people in traffic—drivers, walkers, cyclists, and others—in the safest and most efficient manner. For example, in some cities a countdown signal indicates, in seconds, exactly how much time you have before the “Walk” signal will change to “Don’t Walk.” Some people in the traffic world think this innovation has made things better for pedestrians, but it is just as easy to find others who think it offers no improvement at all. Some people think that marked bicycle lanes on streets are ideal for cyclists, while others prefer separated lanes; still others suggest that having no bicycle lanes at all would be best for bike riders.

Henry Barnes, the legendary traffic commissioner of New York City in the 1960s, reflecting on his long career in his charmingly titled memoir *The Man with the Red and Green Eyes*, observed that “traffic was as much an emotional problem as it was a physical and mechanical one.” People, he concluded, were tougher to crack than cars.

7. The scenario in lines 3-7 (“When . . . occurrence”) is best characterized as
- (A) a landmark traffic decision
  - (B) an entertaining historical fact
  - (C) an annoying aristocratic custom
  - (D) an exceptionally dangerous behavior
  - (E) a potentially useful lesson
8. Lines 10-12 (“At . . . right”) indicate that traffic flow in North American cities before the invention of the automobile was
- (A) well regarded
  - (B) enjoyable
  - (C) cautious
  - (D) disorderly
  - (E) violent



9. The reference to “keep to the right” (line 12) serves primarily to
- commend the person who invented the rule
  - emphasize the universal importance of rules
  - indicate a rule that should have been nullified
  - suggest that most subsequent rules have been arbitrary
  - underscore the lack of agreed-upon traffic rules
10. Which of the following is most analogous to the description of William Phelps Eno in lines 19-21 (“But . . . problems”)?
- An international celebrity takes time to meet individually with several of her fans.
  - A state recycling coordinator is asked by other states to run workshops on recycling.
  - A business executive visits companies in other nations to learn new sales strategies.
  - A successful government energy official decides to become a high school science teacher.
  - An inexperienced new driver volunteers to serve on his town’s traffic advisory committee.
11. The reference to the two types of engineers in lines 21-22 (“was . . . engineer”) is used largely to support which of the following points?
- New York City’s traffic problems were unique.
  - Eno was a better teacher than he was an engineer.
  - Engineering skills can be applied to many different fields.
  - Changes in human behavior were needed as well as new traffic rules.
  - People became confused by the abundance of new traffic regulations.
12. The discussion in lines 22-23 (“teaching . . . will”) implies that automobile drivers in the early 1900s initially
- challenged the legality of the new rules
  - objected to the rules favoring pedestrians
  - resented the limitations imposed by the new rules
  - struggled to understand the need for the single traffic rule
  - felt suspicious of Eno’s celebrity status
13. The examples in lines 25-33 (“In one . . . meant”) are used to support the point that
- standardization was needed
  - color choices were limited
  - words can be ambiguous
  - simplicity was impossible
  - more police officers were required
14. The questions in lines 35-42 (“Were red . . . green?”) primarily serve to
- provide exceptions to generalizations
  - highlight issues that required resolution
  - challenge commonly held assumptions
  - clarify the benefits of an important decision
  - propose a distinction between similar views
15. Lines 42-44 (“traffic . . . authority”) suggest that traffic engineers were able to
- make unimpeded progress
  - achieve immediate consensus
  - gain an appreciable amount of influence
  - consult a diverse array of motorists
  - seize power from wealthy urbanites
16. The references to “Morocco” (line 56) and “Montana” (line 57) serve to emphasize the
- variety of traffic issues worldwide
  - importance of the color red in traffic lights
  - necessity of adjusting speed limits on highways
  - uniformity of most modern traffic signals
  - complexity of constructing global highway systems
17. In lines 63-64, “walkers” and “cyclists” are mentioned as examples of people who
- enjoy physical exercise in outdoor locations
  - move safely and efficiently on city streets
  - prefer not to use public transportation
  - share busy streets with motorists
  - save gas by not using automobiles



18. Which generalization about the use of “marked bicycle lanes” (line 71) is most directly supported by the passage?

- (A) Bicycles and automobiles should be kept apart.
- (B) Cyclists are treated like second-class citizens.
- (C) The lanes interfere with the flow of traffic.
- (D) This idea has proved to be a model of innovation.
- (E) There is currently little consensus about this topic.

19. The passage is best described as

- (A) a consideration of challenges in regulating traffic
- (B) a criticism of the professional qualifications of traffic engineers
- (C) an account of the impact of the invention of the automobile
- (D) an argument for giving priority to pedestrian traffic
- (E) an explanation of a puzzling event in automotive history

**STOP**

If you finish before time is called, you may check your work on this section only.  
Do not turn to any other section in the test.



**SECTION 9**  
Time — 20 minutes  
16 Questions

**Turn to Section 9 (page 7) of your answer sheet to answer the questions in this section.**

**Directions:** For this section, solve each problem and decide which is the best of the choices given. Fill in the corresponding circle on the answer sheet. You may use any available space for scratch work.

Notes

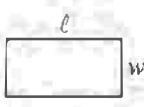
1. The use of a calculator is permitted.
2. All numbers used are real numbers.
3. Figures that accompany problems in this test are intended to provide information useful in solving the problems. They are drawn as accurately as possible EXCEPT when it is stated in a specific problem that the figure is not drawn to scale. All figures lie in a plane unless otherwise indicated.
4. Unless otherwise specified, the domain of any function  $f$  is assumed to be the set of all real numbers  $x$  for which  $f(x)$  is a real number.

Reference Information

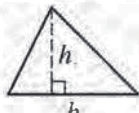


$$A = \pi r^2$$

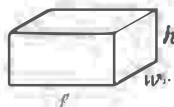
$$C = 2\pi r$$



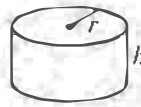
$$A = \ell w$$



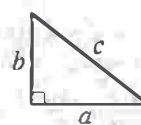
$$A = \frac{1}{2}bh$$



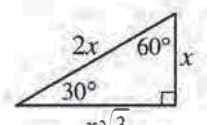
$$V = \ell wh$$



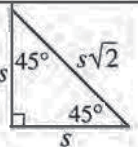
$$V = \pi r^2 h$$



$$c^2 = a^2 + b^2$$



Special Right Triangles



The number of degrees of arc in a circle is 360.

The sum of the measures in degrees of the angles of a triangle is 180.

1. If  $y = x + 50$ , then  $\frac{1}{10}(y - x) =$

- (A) 5  
(B) 25  
(C) 50  
(D) 250  
(E) 500

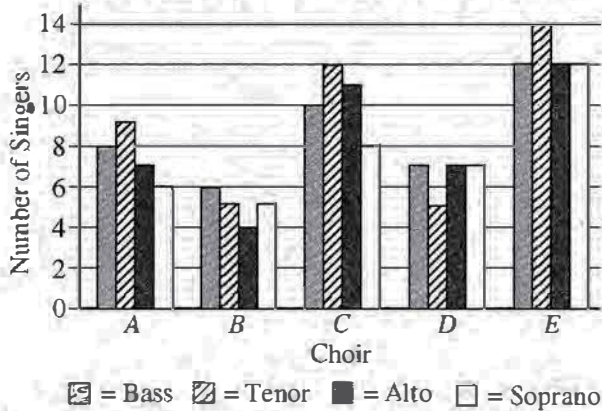
2. If  $8 + x$  is 4 more than 16, what is the value of  $2x$ ?

- (A) 12  
(B) 14  
(C) 24  
(D) 40  
(E) 56

**GO ON TO THE NEXT PAGE**



SINGERS IN FIVE DIFFERENT CHOIRS



3. The bar graph above shows the number of singers in each voice section of five choirs. If choir A were to be combined with choir C to form a single new choir, the new choir would have how many more tenors than choir E?

- (A) Four  
 (B) Five  
 (C) Seven  
 (D) Eight  
 (E) Nine

4. If  $x^{3y} = 27$ , what does  $x^y$  equal?

- (A) 3  
 (B) 6  
 (C) 9  
 (D) 12  
 (E) 81

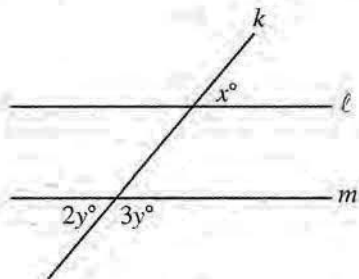
5. If  $k > 0$ , which of the following CANNOT be equal

to  $\frac{8}{20k}$ ?

- (A) 0  
 (B) 0.2  
 (C) 0.4  
 (D) 0.8  
 (E) 4

GO ON TO THE NEXT PAGE





Note: Figure not drawn to scale.

6. In the figure above, lines  $\ell$  and  $m$  are parallel. What is the value of  $x$ ?

(A) 24  
 (B) 36  
 (C) 54  
 (D) 72  
 (E) 108

7. On a certain day, 85 men and 155 women each made purchases at a department store. If 40 percent of these people purchased clothing and if 42 of those who purchased clothing were men, how many women purchased clothing?

(A) 42  
 (B) 54  
 (C) 62  
 (D) 82  
 (E) 96

8. For which of the following sets does each ordered pair  $(x, y)$  in the set satisfy the inequality

$$|x| + |y| \leq 5?$$

- I.  $\{(0, 0), (-2, 3), (0, 5), (0, -5)\}$   
 II.  $\{(5, -1), (3, -2), (-1, 5), (-2, -2)\}$   
 III.  $\{(-2, 3), (0, 0), (4, -1), (0, 6)\}$

(A) I only  
 (B) II only  
 (C) III only  
 (D) I and III  
 (E) II and III

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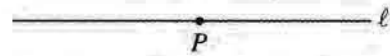
9. In a certain sequence, each term after the first term is 3 less than twice the previous term. The 5th term of the sequence is 17. What is the sum of the 4th and 6th terms?

(A) 35  
 (B) 38  
 (C) 41  
 (D) 44  
 (E) 47

10. At a department store,  $\frac{3}{5}$  of the items are discounted by 50 percent,  $\frac{1}{5}$  of the items are discounted by 70 percent,  $\frac{1}{10}$  of the items are discounted by 80 percent, and all other items are not discounted.

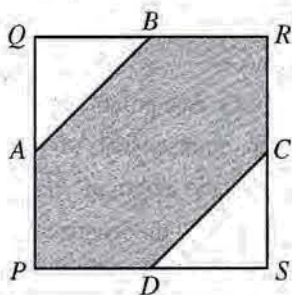
If one item is to be chosen at random, what is the probability that the item is discounted by either 50 percent or 70 percent?

(A)  $\frac{1}{5}$   
 (B)  $\frac{3}{10}$   
 (C)  $\frac{3}{5}$   
 (D)  $\frac{7}{10}$   
 (E)  $\frac{4}{5}$



11. In the figure above, two points  $A$  and  $B$  (not labeled) are on line  $\ell$  on opposite sides of  $P$ , and the length of  $\overline{AP}$  is three times the length of  $\overline{PB}$ . What is the ratio of the length of  $\overline{AB}$  to the length of  $\overline{PB}$ ?

(A) 1 to 4  
 (B) 1 to 3  
 (C) 3 to 4  
 (D) 3 to 1  
 (E) 4 to 1



12. In square  $PQRS$  above, points  $A$ ,  $B$ ,  $C$ , and  $D$  are midpoints of the sides. If the area of the square is  $z$ , what is the area of the shaded region in terms of  $z$ ?

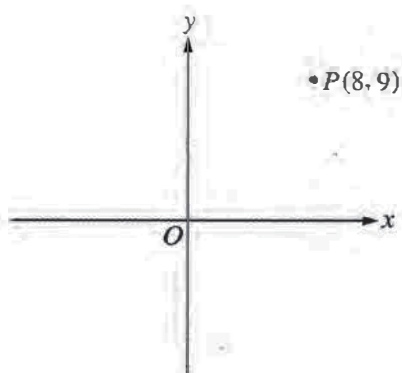
- (A)  $\frac{7}{8}z$   
 (B)  $\frac{3}{4}z$   
 (C)  $\frac{2}{3}z$   
 (D)  $\frac{1}{2}z$   
 (E)  $\frac{1}{4}z$

14. Danielle earned 35 more credits at the state university than she did at the community college. Half the number of credits that she earned at the university is 3 times the number of credits she earned at the community college. How many credits did she earn altogether at both schools?

- (A) 46  
 (B) 47  
 (C) 48  
 (D) 49  
 (E) 50

13. If  $x$  is an even integer, how many even integers are there between  $x + 3$  and  $x + 13$ , inclusive?

- (A) Four  
 (B) Five  
 (C) Six  
 (D) Seven  
 (E) Ten



15. In the  $xy$ -coordinate system above,  $P$  is the center of a circle (not shown). If the radius of the circle is 10, in how many points does the circle intersect the coordinate axes?
- (A) None  
 (B) One  
 (C) Two  
 (D) Three  
 (E) Four

$b$	$f(b)$
-3	6
-2	5
0	-3
1	0
4	-13

16. The table above defines the function  $f$ . If the function  $g$  is defined as  $g(b) = f(b) + 2$ , what is the value of  $a$  when  $g(a) = 8$ ?
- (A) -3  
 (B) -2  
 (C) 0  
 (D) 1  
 (E) 4

**STOP**

If you finish before time is called, you may check your work on this section only.  
 Do not turn to any other section in the test.



## SECTION 10

Time — 10 minutes

14 Questions

Turn to Section 10 (page 7) of your answer sheet to answer the questions in this section.

**Directions:** For each question in this section, select the best answer from among the choices given and fill in the corresponding circle on the answer sheet.

The following sentences test correctness and effectiveness of expression. Part of each sentence or the entire sentence is underlined; beneath each sentence are five ways of phrasing the underlined material. Choice A repeats the original phrasing; the other four choices are different. If you think the original phrasing produces a better sentence than any of the alternatives, select choice A; if not, select one of the other choices.

In making your selection, follow the requirements of standard written English; that is, pay attention to grammar, choice of words, sentence construction, and punctuation. Your selection should result in the most effective sentence—clear and precise, without awkwardness or ambiguity.

## EXAMPLE:

Laura Ingalls Wilder published her first book and she was sixty-five years old then.

- (A) and she was sixty-five years old then
- (B) when she was sixty-five
- (C) at age sixty-five years old
- (D) upon the reaching of sixty-five years
- (E) at the time when she was sixty-five

(A) ● (C) (D) (E)

1. Just after returning home, the discovery was made that the basement had flooded during our absence.
  - (A) Just after returning home, the discovery was made
  - (B) Just after returning home, we discovered
  - (C) Having just returned home was when we discovered
  - (D) We returned home, just thereafter we discovered
  - (E) Our discovery, just after we returned home,

2. Unlike other members of the bear family, which rely at least in part on a diet of insects, fish, mammals, or other meat, but pandas are primarily vegetarians and eat mainly bamboo.
  - (A) but pandas are
  - (B) but a panda is
  - (C) pandas are
  - (D) pandas, which are
  - (E) that of a panda is
3. Maya Lin is best known for designing the Vietnam Veterans Memorial, but her work also including buildings, furniture, and sculptures in stone, wood, and glass.
  - (A) but her work also including
  - (B) but her work also includes
  - (C) but her work also having included
  - (D) her work also includes
  - (E) then her work also includes
4. The Mansion House, once home to a thriving utopian community, remained closed to the public for over a century and reopening as a museum in 1987.
  - (A) century and reopening
  - (B) century, it reopened
  - (C) century but reopened
  - (D) century, when reopening
  - (E) century, so reopening



5. Voicing their concern about heavy traffic near the school, the town council's plan to build a bypass was supported by local parents.
- (A) the town council's plan to build a bypass was supported by local parents  
 (B) local parents supported the town council's plan to build a bypass  
 (C) a plan by the town council to build a bypass was supported by local parents  
 (D) a bypass was planned by the town council and local parents supported building it  
 (E) building a bypass was planned by the town council and supported by local parents
6. Diamond is harder than any other naturally occurring mineral, and the reason is because its carbon atoms are arranged in a strongly bonded crystal structure.
- (A) mineral, and the reason is because  
 (B) mineral; the reason for it is that  
 (C) mineral and because  
 (D) mineral because  
 (E) mineral by
7. Relatively little is known about the Suminoe oyster, which is new to the Chesapeake Bay, this has resulted in it being difficult for scientists to decide whether it may disturb the ecosystem there.
- (A) Bay, this has resulted in it being difficult  
 (B) Bay, which have resulted in difficulty  
 (C) Bay, and results in difficulty  
 (D) Bay; they result in difficulty  
 (E) Bay; as a result, it is difficult
8. The reason that many films succeed is that it reflects the private yearnings of audiences.
- (A) is that it reflects  
 (B) is that they reflect  
 (C) is because of reflecting  
 (D) are because they reflect  
 (E) are their reflection of
9. Dorothy Crowfoot Hodgkin used x-rays to discover the chemical structures of penicillin and vitamin B12, winning a Nobel Prize for her work.
- (A) winning a Nobel Prize for her work  
 (B) she then won a Nobel Prize for her work  
 (C) this work won her a Nobel Prize  
 (D) she won a Nobel Prize for her work  
 (E) her work having won a Nobel Prize for her
10. Although the development of an all-electric airplane is more problematic and complex than an all-electric car, several aeronautical companies are working to design and build all-electric airplanes.
- (A) an all-electric car  
 (B) all-electric cars  
 (C) those of an all-electric car  
 (D) an all-electric car being developed  
 (E) the development of an all-electric car
11. In appearance much like the traditional yellow-fleshed Peruvian potato, Canadian researchers developed the hybrid Yukon Gold potato about 30 years ago.
- (A) Canadian researchers developed the hybrid Yukon Gold potato  
 (B) Canadian researchers have developed the hybrid Yukon Gold potato  
 (C) the hybrid Yukon Gold potato was developed by Canadian researchers  
 (D) however, the hybrid Yukon Gold potato was developed by Canadian researchers  
 (E) but the hybrid Yukon Gold potato was developed by Canadian researchers
12. One of the few marine mammals that makes use of tools are the Indian Ocean bottlenose dolphin, which uses sea sponges to stir sand on the ocean floor while hunting for prey.
- (A) that makes use of tools are  
 (B) that make use of tools are  
 (C) to make use of tools is  
 (D) to make use of tools are  
 (E) to make use of tools,



13. The Institute's exhibition of pictures of Arctic animals displays a firm commitment and a deep interest in the conservation of the world's endangered animal species.
- (A) displays a firm commitment
  - (B) display a firm commitment
  - (C) displays a firm commitment to
  - (D) display a firm commitment to
  - (E) that display a firm commitment
14. In addition to scientific talent, Santiago Ramón y Cajal had artistic talent, as is evidenced by the excellent drawings in his papers about the nervous system.
- (A) as is evidenced by the excellent drawings
  - (B) which the excellent drawings are seen to be evidence of and appeared
  - (C) the excellent drawings which are evidence of this are
  - (D) his excellent drawings as evidence, appearing
  - (E) to be evidenced of in the excellent drawings

**S T O P**

If you finish before time is called, you may check your work on this section only.  
Do not turn to any other section in the test.

## Correct Answers and Difficulty Levels Form Codes AEIA, BWIA

### Critical Reading

Section 2			Section 4			Section 8		
COR. DIFF. ANS. LEV.	COR. DIFF. ANS. LEV.	COR. DIFF. ANS. LEV.	COR. DIFF. ANS. LEV.	COR. DIFF. ANS. LEV.	COR. DIFF. ANS. LEV.	COR. DIFF. ANS. LEV.	COR. DIFF. ANS. LEV.	
1. E 1	13. D 3	1. B 1	13. B 3	1. A 1	11. D 3	2. A 1	12. C 3	
2. D 1	14. B 5	2. B 2	14. E 3	3. D 3	12. C 3	3. D 3	13. A 1	
3. B 2	15. A 1	3. A 4	15. C 3	4. C 3	13. A 1	4. C 3	14. B 3	
4. E 2	16. A 3	4. C 3	16. A 3	5. D 5	14. B 3	5. E 5	15. C 3	
5. D 5	17. C 3	5. D 5	17. A 2	6. B 2	15. C 3	6. E 5	16. D 2	
6. A 3	18. D 5	6. B 2	18. C 5	7. E 2	16. D 2	7. B 2	17. D 3	
7. C 4	19. A 4	7. E 2	19. A 2	8. A 2	17. D 3	8. D 1	18. E 3	
8. C 5	20. E 4	8. A 2	20. B 3	9. C 3	18. E 3	9. E 3	19. A 4	
9. C 2	21. E 3	9. C 3	21. E 3	10. D 1	19. A 4	10. B 4		
10. E 2	22. B 2	10. D 1	22. A 3	11. A 2				
11. A 3	23. C 4	11. A 2	23. D 3	12. B 3				
12. C 2	24. †	12. B 3	24. E 3					

Number correct	Number correct	Number correct
Number incorrect	Number incorrect	Number incorrect

### Mathematics

Section 3		Section 7		Section 9	
COR. DIFF. ANS. LEV.	COR. DIFF. ANS. LEV.	Multiple-Choice Questions		COR. DIFF. ANS. LEV.	COR. DIFF. ANS. LEV.
1. B 1	11. E 3	1. D 1	9. 81	1. A 2	9. C 3
2. C 1	12. E 2	2. B 1	10. $7/4, 1.75$	2. C 1	10. E 3
3. B 1	13. A 3	3. A 3	11. 1700	3. C 1	11. E 4
4. D 1	14. D 4	4. E 3	12. 44	4. A 2	12. B 3
5. D 1	15. B 4	5. B 3	13. $31 \leq x \leq 41$	5. A 2	13. B 3
6. C 1	16. D 3	6. D 3	14. 130	6. D 3	14. D 4
7. A 2	17. C 4	7. A 3	15. 150	7. B 2	15. E 4
8. C 1	18. A 4	8. C 4	16. 10	8. A 2	16. A 4
9. B 2	19. E 1		17. $8/3, 2.66, 2.67$		
10. A 3	20. A 5		18. 8		

Number correct	Number correct	Number correct (9-18)	Number correct
Number incorrect	Number incorrect		Number incorrect

### Writing Multiple-Choice

Section 6				Section 10			
COR. DIFF. ANS. LEV.	COR. DIFF. ANS. LEV.	COR. DIFF. ANS. LEV.	COR. DIFF. ANS. LEV.	COR. DIFF. ANS. LEV.	COR. DIFF. ANS. LEV.	COR. DIFF. ANS. LEV.	COR. DIFF. ANS. LEV.
1. B 1	10. E 4	19. B 3	28. E 4	1. B 1	6. D 1	11. C 3	
2. C 1	11. D 5	20. E 3	29. A 5	2. C 1	7. E 2	12. C 3	
3. A 1	12. D 1	21. C 3	30. C 3	3. B 1	8. B 3	13. C 5	
4. E 2	13. C 1	22. D 3	31. A 2	4. C 2	9. A 3	14. A 4	
5. B 3	14. C 2	23. E 3	32. B 2	5. B 2	10. E 4		
6. B 3	15. D 1	24. D 4	33. B 3				
7. E 3	16. A 2	25. E 4	34. D 3				
8. D 3	17. E 1	26. D 5	35. B 3				
9. D 4	18. B 2	27. A 4					

Number correct	Number correct
Number incorrect	Number incorrect

† Question dropped

**NOTE:** Difficulty levels are estimates of question difficulty for a reference group of college-bound seniors. Difficulty levels range from 1 (easiest) to 5 (hardest).