



ESSAY

Time — 25 minutes

The essay gives you an opportunity to show how effectively you can develop and express ideas. You should, therefore, take care to develop your point of view, present your ideas logically and clearly, and use language precisely.

Your essay must be written on the lines provided on your answer sheet — you will receive no other paper on which to write. You will have enough space if you write on every line, avoid wide margins, and keep your handwriting to a reasonable size. Remember that people who are not familiar with your handwriting will read what you write. Try to write or print so that what you are writing is legible to those readers.

Important Reminders:

- A pencil is required for the essay. An essay written in ink will receive a score of zero.
- Do not write your essay in your test book. You will receive credit only for what you write on your answer sheet.
- An off-topic essay will receive a score of zero.
- If your essay does not reflect your original and individual work, your scores for the entire test may be canceled.
- An electronic copy of your essay will be made available to each of your designated score recipients: colleges, universities, and scholarship programs.

You have twenty-five minutes to write an essay on the topic assigned below.

Think carefully about the issue presented in the following excerpt and the assignment below.

The idea of caring about only the people of one's own country seems outdated. Some people still defend this attitude, claiming that if we are going to expend resources to help people, we should help those of our own country first. But national boundaries are meaningless lines that shift over time. There is no reason why a citizen of one country should not feel just as responsible for the well-being of people in other countries as for the well-being of those in his or her own country.

Assignment: Should we care just as much about people in other countries as we do about people in our own country? Plan and write an essay in which you develop your point of view on this issue. Support your position with reasoning and examples taken from your reading, studies, experience, or observations.

BEGIN WRITING YOUR ESSAY ON PAGE 2 OF THE ANSWER SHEET.

If you finish before time is called, you may check your work on this section only.
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Think carefully about the issue presented in the following excerpt and the assignment below.

Some say that high achievers — people who reach their ambitious goals because of their determination and skills — always get ahead at the expense of others. When one political candidate is elected, others are defeated; when someone wins in any kind of competitive event, others lose. But this view of achievers is too negative. By improving the world around them and providing an example for all to follow, achievers benefit others as well as themselves.

Assignment: Do the actions of high achievers benefit all people? Plan and write an essay in which you develop your point of view on this issue. Support your position with reasoning and examples taken from your reading, studies, experience, or observations.

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You have twenty-five minutes to write an essay on the topic assigned below.

Think carefully about the issue presented in the following excerpt and the assignment below.

People tend to consider the past unimportant. After all, why waste time dwelling on what has already happened? There is no way to go back and change events or their outcomes. But this way of thinking is wrong. People are too focused on the present; they should pay more and closer attention to past events. The lessons learned from examining the past are much more valuable than any lessons that people can learn from the present.

Assignment: Do people learn more from examining events in the past than from focusing only on the present? Plan and write an essay in which you develop your point of view on this issue. Support your position with reasoning and examples taken from your reading, studies, experience, or observations.

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You have twenty-five minutes to write an essay on the topic assigned below.

Think carefully about the issue presented in the following excerpt and the assignment below.

Studies of creativity often focus primarily on writers, artists, composers, and scientists. Political leaders are not usually considered to be very creative. Indeed, it is sometimes said that it is a good thing that leaders in general are not very creative, since an excess of creativity, especially in leaders who have to enforce rules, would only lead to trouble. Yet surely some degree of creativity is desirable in all walks of life.

Adapted from Thomas G. West, *In the Mind's Eye*

Assignment: Do all people need to be creative? Plan and write an essay in which you develop your point of view on this issue. Support your position with reasoning and examples taken from your reading, studies, experience, or observations.

BEGIN WRITING YOUR ESSAY ON PAGE 2 OF THE ANSWER SHEET.

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SECTION 2

Time — 25 minutes

20 Questions

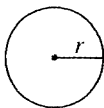
Turn to Section 2 (page 4) of your answer sheet to answer the questions in this section.

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

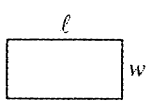
- The use of a calculator is permitted.
- All numbers used are real numbers.
- Figures that accompany problems in this test are intended to provide information useful in solving the problems. They are drawn as accurately as possible EXCEPT when it is stated in a specific problem that the figure is not drawn to scale. All figures lie in a plane unless otherwise indicated.
- 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

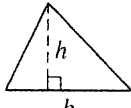


$$A = \pi r^2$$

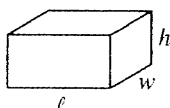
$$C = 2\pi r$$



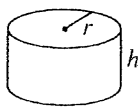
$$A = \ell w$$



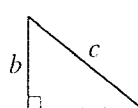
$$A = \frac{1}{2}bh$$



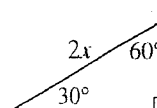
$$V = \ell wh$$



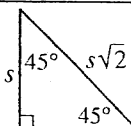
$$V = \pi r^2 h$$



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



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. Set N consists of all numbers that are both greater than -4 and less than 3 . Which of the following numbers is NOT in set N ?

- (A) 2
(B) 0
(C) -1
(D) -3
(E) -5

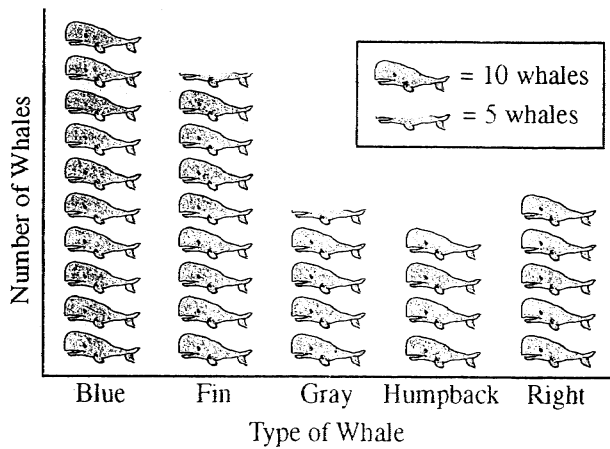
2. For which of the following values of x is $3(x - 2)$ divisible by 9?

- (A) 3
(B) 4
(C) 5
(D) 6
(E) 7

GO ON TO THE NEXT PAGE

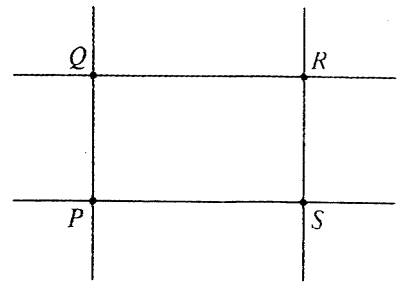


NUMBER OF WHALES TAGGED
IN POPULATION STUDY, BY TYPE



3. A scientist is conducting a study to track five different types of whales. The pictogram above shows how many whales have been tagged, by type, during the study. What fraction of the tagged whales are humpback whales?

- (A) $\frac{1}{8}$
 (B) $\frac{1}{6}$
 (C) $\frac{4}{17}$
 (D) $\frac{5}{16}$
 (E) $\frac{1}{3}$



4. In the figure above, four lines intersect as shown and $PQRS$ is a rectangle. How many right angles are in the figure?

- (A) 4
 (B) 8
 (C) 12
 (D) 16
 (E) 20

5. If $2x^2 = 8$, which of the following is a possible value of $-2x$?

- (A) -8
 (B) -4
 (C) -2
 (D) 3
 (E) 6



6. At a clothing store, John bought 2 equally priced shirts and 1 pair of pants. The price of the pants was n dollars, and the total price for the 3 items was 75 dollars. What was the price, in dollars, of each of the shirts in terms of n ?

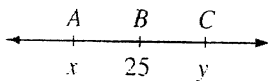
(A) $25 - n$

(B) $\frac{75}{2} - n$

(C) $\frac{75 + n}{2}$

(D) $\frac{75 - n}{3}$

(E) $\frac{75 - n}{2}$



7. On the number line above, x and y are the coordinates of points A and C , and $AB = BC$. What is the value of $x + y$?

- (A) 25
(B) 50
(C) 75
(D) 100
(E) 125

8. If $x = \frac{2}{3}$ and $y = \frac{1}{2}$, which of the following is greatest?

(A) $x + y$

(B) $x - y$

(C) xy

(D) xy^2

(E) $(xy)^2$

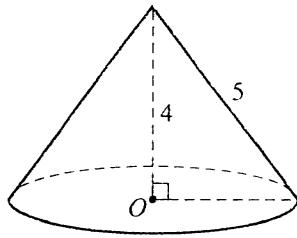
9. A potato at room temperature is placed in an oven at 375°F . After m minutes in the oven, the potato's temperature, P , in degrees Fahrenheit, is modeled by the function $P(m) = 375 - 300(0.9)^{\frac{m}{2}}$. According to the model, which of the following best approximates the temperature of the potato after 4 minutes in the oven?

- (A) 100°F
(B) 130°F
(C) 180°F
(D) 240°F
(E) 270°F



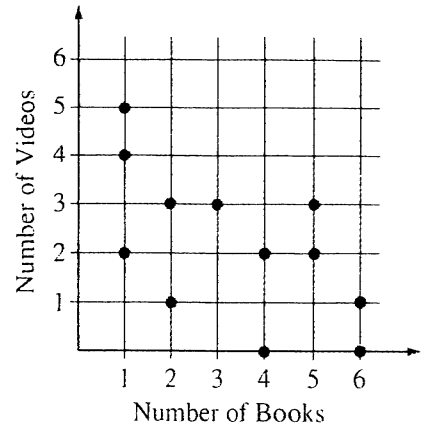
10. If $w + 2x + y = 10$ and $2w + 2x + 2y = 10$, what is the value of x ?

(A) 5
(B) 10
(C) 15
(D) 20
(E) 25

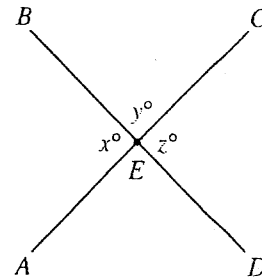


11. In the right circular cone above, point O is the center of the base. What is the volume of the cone?
(The volume of a cone with base radius r and height h is $\frac{1}{3}\pi r^2 h$.)

(A) 12π
(B) 15π
(C) 16π
(D) $\frac{80\pi}{3}$
(E) $\frac{100\pi}{3}$



12. The scatterplot above shows the number of books read and the number of videos watched by each of 12 students in one month. For how many of the students was the number of books read greater than the number of videos watched?
- (A) Three
(B) Four
(C) Five
(D) Six
(E) Seven



Note: Figure not drawn to scale.

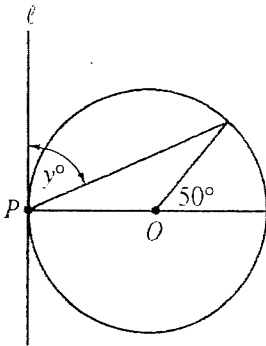
13. In the figure above, line segments \overline{AC} and \overline{BD} intersect at point E . If $y > 90$, which of the following is NOT true?
- (A) $x = z$
(B) $x + y = 180$
(C) $y + z = 180$
(D) $x + z < 180$
(E) $x + y + z > 270$



$$y = 10 - 3x$$

14. How many different ordered pairs (x, y) of positive integers satisfy the equation above?

(A) None
 (B) One
 (C) Two
 (D) Three
 (E) Five

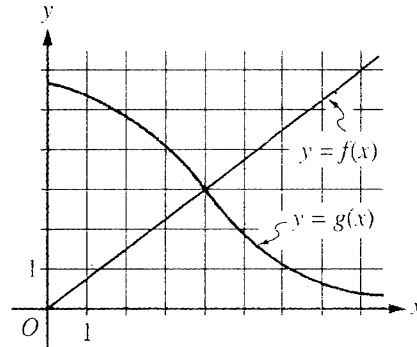


15. In the figure above, line ℓ is tangent to the circle at point P , and point O is the center of the circle. What is the value of y ?

(A) 50
 (B) 55
 (C) 60
 (D) 65
 (E) 75

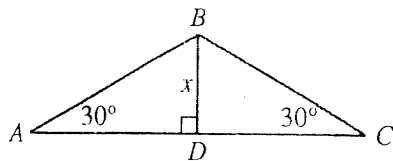
16. At Wilson High School, the global issues class consists of 60% of the senior class. In the global issues class, 40% of the students are boys, and there are 90 girls in this class. What is the total number of students in the senior class at Wilson High School?

(A) 150
 (B) 200
 (C) 250
 (D) 375
 (E) 450



17. The graphs of the functions f and g are shown in the xy -plane above. For which of the following values of a is $f(a) = g(a)$?

(A) 3
 (B) 4
 (C) 5
 (D) 6
 (E) 7



18. In $\triangle ABC$ above, what is the length of segment \overline{AC} in terms of x ?
- (A) $3x$
 (B) $4x$
 (C) $x\sqrt{3}$
 (D) $2x\sqrt{2}$
 (E) $2x\sqrt{3}$

19. If $3^x = k$, what does 3^{2x+1} equal in terms of k ?

- (A) $3k^2$
 (B) $9k^3$
 (C) $k^2 + 3$
 (D) $2k + 3$
 (E) $2k + 1$

20. In the xy -coordinate plane, point P is the reflection of the point with coordinates $(3, 1)$ across the line $y = x$. Point T is the reflection of point P across the y -axis. What are the coordinates of T ?

- (A) $(-3, 1)$
 (B) $(-1, -3)$
 (C) $(-1, 3)$
 (D) $(1, -3)$
 (E) $(3, -1)$

STOP

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**SECTION 4**

Time — 25 minutes

35 Questions

Turn to Section 4 (page 5) 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) (B) (C) (D) (E)

1. William Dalrymple's book is not only a gripping tale of politics and power and also evidence of the complexity of cross-cultural relationships.

- (A) and also
- (B) but also
- (C) as well as
- (D) in addition
- (E) and

2. Walking out of the theater, it was agreed by my sister and me that the movie was vastly overrated.

- (A) it was agreed by my sister and me
- (B) it was agreed by my sister and I
- (C) my sister and me, we agreed
- (D) my sister and me agreed
- (E) my sister and I agreed

3. When packing for a trip, you should follow the advice offered in many magazine articles: choose wrinkle-free clothing in black and in neutral colors.

- (A) you should follow the advice offered in many magazine articles
- (B) you would follow the advice offered from many magazine articles
- (C) follow the advice with many magazine articles
- (D) the advice in many magazine articles is offered and one should follow it
- (E) many magazine articles would offer advice to be followed

4. Home fuel cells, already available in Japan, which is a compact, pollution-free device that produce electricity at a fraction of the regular cost.

- (A) which is a compact, pollution-free device
- (B) a compact, pollution-free device
- (C) these devices are compact, pollution-free,
- (D) is a compact, pollution-free device
- (E) are compact, pollution-free devices



5. Because writers in colonial America had to pay their own printing costs, authorship was largely a profession with those who were relatively wealthy.
- (A) authorship was largely a profession with those who were
 (B) authorship was largely a profession of the
 (C) authorship, largely a profession of the
 (D) authorship having largely been a profession for those who were
 (E) therefore authorship was largely a profession for the
6. The program is one of many projects included in the ambitious Copenhagen Climate Plan, it aims to make the Danish capital carbon neutral by 2025.
- (A) it aims
 (B) its aim is
 (C) where they aim
 (D) which aims
 (E) which is aimed
7. In a Zen rock garden, stones are positioned to represent islands, and the surrounding gravel is raked to form patterns that suggests ocean waves.
- (A) patterns that suggests
 (B) patterns suggesting
 (C) patterns, they suggest
 (D) patterns; which suggest
 (E) patterns; this suggesting
8. Until relatively recently humans were thought to be uniquely self-aware, scientists now know that most chimpanzees and orangutans can recognize their own reflections.
- (A) scientists now know
 (B) but scientists now know
 (C) but scientists who now know
 (D) however, scientists now know
 (E) but with scientists now knowing
9. Evidence of the prehistoric hunter-gatherers who once occupied the Grand Canyon includes animal figurines made out of split and woven twigs as well as rock-art panels and stone tools.
- (A) who once occupied the Grand Canyon includes
 (B) that once occupied the Grand Canyon include
 (C) when they occupied the Grand Canyon include
 (D) once occupying the Grand Canyon including
 (E) who at one time occupied the Grand Canyon, including
10. After scheduling it for demolition, the hundred-year-old building was instead moved to a new location.
- (A) After scheduling it for demolition, the hundred-year-old building was instead moved
 (B) After scheduling the hundred-year-old building for demolition, it was instead moved
 (C) After being scheduled for demolition, they instead moved the hundred-year-old building
 (D) Having been scheduled for demolition, they instead moved the hundred-year-old building
 (E) Having been scheduled for demolition, the hundred-year-old-building was instead moved
11. Because Earth's gravity is greater than the Moon's, the energy expended in traveling from Earth to the Moon is greater than the opposite direction.
- (A) the opposite
 (B) traveling in the opposite
 (C) if one travels in the opposite
 (D) that of traveling in the opposite
 (E) that expended in traveling in the opposite



The following sentences test your ability to recognize grammar and usage errors. Each sentence contains either a single error or no error at all. No sentence contains more than one error. The error, if there is one, is underlined and lettered. If the sentence contains an error, select the one underlined part that must be changed to make the sentence correct. If the sentence is correct, select choice E. In choosing answers, follow the requirements of standard written English.

EXAMPLE:

The other delegates and him immediately

A

B

C

accepted the resolution drafted by the

D

neutral states. No error

E

(A) ● (C) (D) (E)

12. A passion fruit, which is about the size of an egg,

A

B

has a brittle outer shell that became slightly wrinkled

C

D

when the fruit is ripe. No error

E

13. Across the street from the new bookstore and coffee

A

shop were an old, dilapidated playground whose

B

C

broken equipment and overgrown weeds attested

to long neglect. No error

D

E

14. Because perspiration does not evaporate efficient at

A

B

high humidity, humid air often feels warmer to us

C

D

than would dry air at the same temperature. No error

E

15. Hull House was founded by Jane Addams

A

as a community project in which people of the

B

neighborhood joined trained social workers to provide

C

day care, schooling, meals, and they offer many other

D

services. No error

E

16. Although Daniel Gabriel Fahrenheit was far from

being the only eighteenth-century scientist

A

B

to propose a temperature scale, but his was one

C

D

of the few that were widely used. No error

E

17. Often used interchangeable in recipes, the nectarine

A

and the peach share many characteristics, but the

B

skin of a nectarine is smoother than that of a peach.

C

D

No error

E

18. Speed-reading was once promoted mainly to people

A

who were eager to catch up on recreational reading,

B

but now the method appeals to busy executives

C

copied about information overload. No error

D

E



19. Like former British prime minister Margaret Thatcher, who studied chemistry in college, German chancellor A Angela Merkel was initially drawn to the sciences, B C earning a doctorate in physics before entering politics. D No error E
20. When the first department stores opened in the late nineteenth century, they were cavernous, no-frills A storerooms that stock a hodgepodge of items B previously available only from specialty C D merchants. No error E
21. Although the author has presented her book to the A publisher as a fact-based memoir, she later confessed B that it had been entirely fabricated. No error C D E
22. Because oysters eat by filtering nutrients through their A gills, their health is affected by the quality of the water B passing through it. No error C D E
23. All morning long my friend and I waited patiently in A B the courtroom to hear whether we would be selected C as a juror in the upcoming trial. No error D E
24. Researchers recognize that the cuttlefish has an A extraordinary ability to camouflage itself, but they B C have only a rough understanding of how it does so. D No error E
25. The plunging cost of genome-sequencing technologies are expected to give people unprecedented A B opportunities to examine their own genetic C D profiles. No error E
26. It was not until 1982, the year two major supermarket chains began replacing paper bags with plastic ones, A B when the use of plastic shopping bags became C D widespread. No error E



27. Because the high-altitude regions where
A
it lives have cold temperatures, dry soil, and
B C
growing seasons are short, the bristlecone pine
D
grows very slowly. No error
E
28. Country-and-western musicians, who in the past were
A
thought to lack market consciousness, are now seen
B C
as one of the most commercially savvy performers in
D
show business. No error
E
29. New Jersey's Atlantic City still uses wooden planks
for their boardwalk, even though other towns
A B
have begun using plastic planks, which last
C
far longer. No error
D E

Directions: The following passage is an early draft of an essay. Some parts of the passage need to be rewritten.

Read the passage and select the best answers for the questions that follow. Some questions are about particular sentences or parts of sentences and ask you to improve sentence structure or word choice. Other questions ask you to consider organization and development. In choosing answers, follow the requirements of standard written English.

Questions 30-35 refer to the following passage.

(1) In 1902 an engineer named Willis Carrier designed an air-cooling system for a Brooklyn printing company. (2) Little did Carrier suspect that his "Apparatus for Treating Air," the first modern air conditioner, had changed the way people in the United States worked and lived. (3) At first, they used such devices exclusively in private industry. (4) Their ability to cool indoor environments improved worker productivity and protected products as various as chocolate, film, and leather from heat damage. (5) Likewise, starting in the 1920s, air-conditioning increasingly appeared in public settings—most dramatically in the modern movie house, which it transformed. (6) Before air-conditioning, theater owners typically lost money in the summer, when the heat and poor ventilation made theaters unappealing. (7) In 1925 Carrier persuaded Adolph Zukor of Paramount Pictures to install air-conditioning in the Rivoli Theater in Manhattan. (8) The experiment was an enormous success. (9) Crowds flocked to the Rivoli. (10) Over the next five years, more than 300 movie theaters in the United States would follow the Rivoli's example. (11) Movie theaters were just the beginning. (12) The introduction of air-conditioning into public areas, such as stores and restaurants, not only made those areas more comfortable but also created a demand for the same level of comfort in the home. (13) As the cost of the new technology came down, air-conditioned houses became a fixture of modern American life. (14) For example, porches became less common as the need to take advantage of breezes disappeared, a trend that prompted some social critics to voice concerns about the loss of contact with nature and neighbors. (15) Still, Zukor was right when he said of air-conditioning, "The people are going to like it."



30. Where in the passage would the following sentence best be placed?

Air-conditioning even altered the way those houses were designed.

- (A) Immediately before sentence 3
- (B) Immediately before sentence 6
- (C) Immediately before sentence 9
- (D) Immediately before sentence 12
- (E) Immediately before sentence 14

31. In context, which of the following revisions to sentence 2 (reproduced below) is most needed?

Little did Carrier suspect that his "Apparatus for Treating Air," the first modern air conditioner, had changed the way people in the United States worked and lived.

- (A) Change "Little did Carrier suspect" to "Carrier did not suspect".
- (B) Change "his" to "this".
- (C) Insert "which was" before "the first modern air conditioner".
- (D) Change "had changed" to "would change".
- (E) Change "people" to "individuals".

32. In context, which is the best way to revise and combine the underlined portion of sentences 3 and 4 (reproduced below) ?

At first, they used such devices exclusively in private industry. Their ability to cool indoor environments improved worker productivity and protected products as various as chocolate, film, and leather from heat damage.

- (A) they used such devices exclusively in private industry, and their
- (B) they used Carrier's device exclusively in private industry, as its
- (C) these devices were used exclusively in private industry because their
- (D) when these devices were used exclusively in private industry, their
- (E) Carrier's device was used exclusively in private industry, where its

33. In context, which of the following expressions would best be inserted at the beginning of sentence 7 (reproduced below) ?

In 1925 Carrier persuaded Adolph Zukor of Paramount Pictures to install air-conditioning in the Rivoli Theater in Manhattan.

- (A) Nevertheless,
- (B) Similarly,
- (C) More importantly,
- (D) Rejecting this argument,
- (E) Responding to this problem,

34. In context, which revision of the underlined portion of sentence 9 (reproduced below) adds information that is most relevant?

Crowds flocked to the Rivoli.

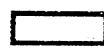
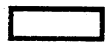
- (A) Rivoli, eager to be present at the theater's widely advertised reopening
- (B) Rivoli, which was named after a famous street in Paris
- (C) Rivoli, as much to escape the heat as to see the movies
- (D) Rivoli, which was a Greek Revival building designed by Thomas W. Lamb
- (E) Rivoli, which previously had not had air-conditioning

35. Which sentence is best placed after sentence 15 to conclude the passage?

- (A) The price of air-conditioning units, however, has held steady, even though they are now globally produced.
- (B) Of course, the popularity of something is no guarantee that its creator will benefit financially from it.
- (C) Nowadays, air-conditioning is so common in the United States that most people don't give it a second thought—except when it's not working.
- (D) Zukor himself progressed from exhibiting movies to producing them, eventually becoming the head of the Paramount Pictures Corporation.
- (E) On the contrary, air-conditioning is sure to be supplanted by more efficient cooling systems that have less of an impact on the environment.

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 5

Time — 25 minutes

23 Questions

Turn to Section 5 (page 5) 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)

- John Hope Franklin's *From Slavery to Freedom* was ----- book because it permanently altered how United States history was studied.

(A) an influential (B) a comfortable
(C) a plodding (D) a confusing
(E) an outrageous
- Students already confused by difficult college-admission procedures will be further ----- by the university's complex new online process.

(A) cheered (B) frustrated (C) encouraged
(D) fascinated (E) soothed
- Cherokee women traditionally exercised ----- authority: they managed agriculture, determined clan membership, and wielded considerable economic power.

(A) extensive (B) temporary (C) limited
(D) passive (E) unjust
- The ----- that met the novella upon publication was so ----- its modest achievement that even the author wondered whether the response was truly deserved.

(A) indifference . . . inconsistent with
(B) recrimination . . . commensurate with
(C) exaltation . . . essential to
(D) incredulity . . . indicative of
(E) acclamation . . . disproportionate to
- The participants in the study considered themselves -----, but in yielding to the wishes of the group, they were assuming ----- values.

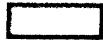
(A) autonomous . . . collective
(B) expedient . . . egotistical
(C) cooperative . . . communal
(D) munificent . . . narcissistic
(E) egalitarian . . . reciprocal
- Basset hounds tend to be ----- breed of dog: most are not easily aroused into action.

(A) a perspicacious (B) a phlegmatic
(C) an estimable (D) an overbearing
(E) a resolute
- Mary Somerville's career was that of a true -----: she wrote on astronomy, mathematics, physics, and geography, among other subjects.

(A) philistine (B) amateur (C) charlatan
(D) polymath (E) ideologue
- Eager to appear sophisticated and learned, Vincent cultivated a persona that was both ----- and ----- .

(A) benevolent . . . pedantic
(B) morose . . . gregarious
(C) cosmopolitan . . . cavalier
(D) urbane . . . erudite
(E) mordant . . . unequivocal

GO ON TO THE NEXT PAGE



The passages below are followed by questions based on their content; questions following a pair of related passages may also be based on the relationship between the paired passages. Answer the questions on the basis of what is stated or implied in the passages and in any introductory material that may be provided.

Questions 9-12 are based on the following passages.

Passage 1

Since long before the invention of university programs in creative writing, authors have mastered their craft in four main ways—first, by paying a certain sort of attention to the experience of life as well as merely undergoing it; *Line* 5 second, by paying a certain sort of attention to the works of their great and less great predecessors in the medium of written language, as well as merely reading them; third, by practicing that medium themselves; and fourth, by offering their apprentice work for discussion and criticism by their impassioned peers, or by some more experienced hand, or *10* by both. None of this, obviously, implies a degree-granting program in creative writing.

Passage 2

Can creative writing be taught? The answer I give to people is that a workshop can be useful. A good teacher *15* can show you how to edit your work. The right class can encourage you and form the basis of a community that will help and sustain you. But the creative writing classroom, as helpful as it was to me, is not where I learned to write. Like most—maybe all—writers, I learned to write by *20* writing and, by example, from reading books. Long before the idea of a writer's class was a glimmer in anyone's eye, writers learned by reading the work of their predecessors.

9. Passage 1 differs from Passage 2 in that Passage 1 notes the importance of
- (A) learning to read at an early age
 - (B) studying works from the past
 - (C) reflecting upon one's life experiences
 - (D) obtaining literary rather than commercial success
 - (E) seeking advice from fellow writing students
10. Both authors agree that aspiring writers should
- (A) read the works of previous writers to gain insights
 - (B) teach basic writing in order to master their craft
 - (C) avoid writing about things they have not yet experienced
 - (D) organize workshops where novices can meet published authors
 - (E) spend more time crafting their writing than reading great works
11. The authors of the two passages would most likely agree that classes in creative writing
- (A) are best avoided entirely
 - (B) may be useful but are not essential
 - (C) tend not to attract the most talented young writers
 - (D) are especially helpful for those with some experience outside the classroom
 - (E) are valuable primarily because of the feedback from fellow students
12. In their discussion of creative writing, both authors point out that
- (A) creative writing classes tend to minimize the importance of reading great works from the past
 - (B) there is no consensus among creative writing teachers on the best approach to teaching writing
 - (C) very few people who take creative writing classes go on to become successful writers
 - (D) learning the craft of writing predates the advent of creative writing programs
 - (E) creative writing classes benefit from having a diverse student population



Questions 13-23 are based on the following passage.

This passage is adapted from a 1995 essay by a paleontologist and science historian.

I was a dinosaur nut as a kid growing up in New York during the late forties and early fifties. Hardly anyone knew or cared about these creatures, and I was viewed as a nerd and misfit on that ultimate field of vocational decision—the school playground at recess. I was called “Fossil Face”; the only other like-minded kid in the school became “Dino” (I am pleased to report that he also became a professional natural historian). The names weren’t funny, and they hurt.

During the last twenty years, however, dinosaurs have vaulted to a steady level of culturally pervasive popularity—from gentle Barney, who teaches proper values to young children on a television series, to ferocious monsters who can promote films from “G” to “R” ratings. This dinosaurian flooding of popular consciousness guarantees that no paleontologist can ever face a journalist and avoid what seems to be the most pressing question of the nineties: why are children so fascinated with dinosaurs?

The question may be a commonplace, but it conflates two quite separate issues. The first relates to an archetypal theme and seeks the universal reason that stirs the soul of childhood. I know no better response than one proposed by a psychologist colleague: big, fierce, and extinct—in other words, alluringly scary but sufficiently safe.

But the archetypal theme cannot touch the heart of current dinomania, culminating in the extraordinary response to *Jurassic Park*^{*}, for an obvious but oddly disregarded reason: dinosaurs were just as big, as fierce, and as extinct forty years ago, but only a few kids, and even fewer professional paleontologists, cared about them. We must therefore pose a second question: why now and not before?

As a practicing paleontologist, I would love to believe that current dinomania arose as a direct product of our research, and all the fascinating new ideas that our profession has generated about dinosaurs. The slow, lumbering, stupid, robotic, virtually behaviorless behemoths of my childhood have been replaced by lithe, agile, potentially warm-blooded, adequately smart, and behaviorally complex creatures. The giant sauropods were mired in ponds during my youth, for many paleontologists regarded them as too heavy to hold up their own bodies on land. Now they stride across the plains, necks and tails outstretched. When I was a child, ornithopods laid their eggs and then walked away forever. Today, these same creatures are the very model of maternal, caring, politically correct dinosaurs. They watch over their nests, care for their young, form cooperative herds, and bear such lovely, peaceful names as *Maiasaura*, the “earth mother lizard” (in

contrast with such earlier monikers as *Pachycephalosaurus*, the “thick boneheaded lizard”). Even their extinction now appears in a much more interesting light. They succumbed to vaguely specified types of “climatic change” in my youth; now we have firm evidence for extraterrestrial impact as the trigger for their final removal.

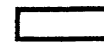
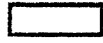
But how can this greening of dinosaurs be the major reason for present faddishness—for if we credit the archetypal theme at all, then the underlying fascination has always been present, even in the bad old days of stupid and lumbering dinosaurs. What transforms this underlying fascination into overt and pervasive dinomania? One quintessentially American source usually supplies a solution—recognition and exploitation of commercial possibilities.

When I was growing up in the streets of New York City, yo-yo crazes would sweep through kiddie culture every year or two, usually lasting for a month or so. These crazes were not provoked by any technological improvement in the design of yo-yos (just as more-competent dinosaurs do not engender dinomania). Similarly, a universal fascination with contained circular motion will not explain why every kid needed a yo-yo in July 1951 but not in June 1950 (just as dinosaurs are always available but only sometimes exploited).

The answer, in short, must lie in commercialization. Every few years, someone figured out how to make yo-yos sell. At some point about twenty years ago, some set of forces discovered how to turn a universal fascination into profits from a plethora of products. You just need a little push to kick the positive feedback machine of human herding and copying behavior into its upward spiral.

^{*} a film featuring dinosaurs in a modern setting

13. The primary purpose of the passage is to
- (A) explain a scientific enterprise
 - (B) portray a recreational trend
 - (C) account for a puzzling phenomenon
 - (D) remember a childhood interest
 - (E) forewarn of a disturbing development
14. In lines 5-8 (“I was . . . hurt”), the author indicates that his classmates
- (A) belittled him for his interest in dinosaurs
 - (B) were jealous of his academic accomplishments
 - (C) were offended by his arrogant behavior
 - (D) idolized him, but they could not express it appropriately
 - (E) were joking, but he misunderstood their motives

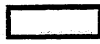


15. The traits discussed in lines 22-23 (“big . . . safe”) reflect which assumption?
- (A) Small children sometimes confuse fantasy with reality.
 - (B) Most children are interested in science, whether they know it or not.
 - (C) The question of why children are fascinated by dinosaurs is fundamentally uninteresting.
 - (D) Children enjoy being alarmed by things they know cannot harm them.
 - (E) The psychological explanation of children’s fascination with dinosaurs is the most persuasive one.
16. The passage as a whole indicates that the explanation the author “would love to believe” (line 32) is
- (A) widely accepted by professional paleontologists
 - (B) incapable of accounting for the current dinomania
 - (C) directly challenged by late-twentieth-century discoveries
 - (D) seriously compromised by errors in methodology
 - (E) eagerly welcomed by commercial concerns
17. Lines 32-50 (“As a . . . lizard’”) suggest that earlier paleontologists viewed dinosaurs in terms best described as
- (A) celebratory
 - (B) cynical
 - (C) ambivalent
 - (D) unflattering
 - (E) objective
18. The author views the “research” mentioned in line 34 with
- (A) nostalgic regret
 - (B) open contempt
 - (C) undisguised envy
 - (D) scholarly enthusiasm
 - (E) cheerful optimism
19. In line 40, “mired” most nearly means
- (A) degraded
 - (B) delayed
 - (C) embroiled
 - (D) stuck
 - (E) muddied
20. Why does the author use the present tense when describing dinosaurs in lines 42-50 (“Now . . . lizard’”)?
- (A) To convey a personal sense of excitement
 - (B) To create a tone of journalistic detachment
 - (C) To underscore a contrast with earlier concepts
 - (D) To emphasize the immediacy of an impression
 - (E) To discredit the outdated work of incompetent scientists
21. In lines 61-62, the phrase “usually supplies a solution” suggests that
- (A) commercial exploitation is a readily available explanation for many things
 - (B) finding answers to complicated questions is an essentially American trait
 - (C) dinomania has influenced many other American cultural phenomena
 - (D) American scholars can unravel historical mysteries if given enough time
 - (E) addressing problems through commercial means is a highly effective strategy

5



5



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any part of this page is illegal.



5



5

22. In lines 69-73 ("Similarly . . . exploited"), the author implies that what changed between June 1950 and July 1951 ?

- (A) The yo-yo was invented.
- (B) A sales campaign increased demand for yo-yos.
- (C) Modern commercial advertising practices were born.
- (D) Physicists discovered the principle that made yo-yos work.
- (E) A particularly widespread and intense yo-yo craze ended abruptly.

23. The passage is best described as

- (A) an analysis of an apparent cultural change
- (B) an investigation of recent unexpected discoveries
- (C) an examination of both sides in a controversy
- (D) a report on strategies for marketing to children
- (E) a defense of an unpopular personal decision

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 6

Time — 25 minutes

18 Questions

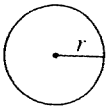
Turn to Section 6 (page 6) of your answer sheet to answer the questions in this section.

Directions: This section contains two types of questions. You have 25 minutes to complete both types. For questions 1-8, 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

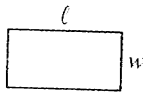
- The use of a calculator is permitted.
- All numbers used are real numbers.
- Figures that accompany problems in this test are intended to provide information useful in solving the problems. They are drawn as accurately as possible EXCEPT when it is stated in a specific problem that the figure is not drawn to scale. All figures lie in a plane unless otherwise indicated.
- 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

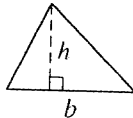


$$A = \pi r^2$$

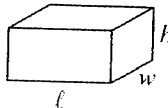
$$C = 2\pi r$$



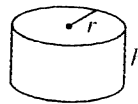
$$A = \ell w$$



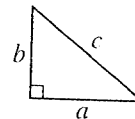
$$A = \frac{1}{2}bh$$



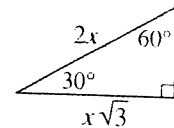
$$V = \ell wh$$



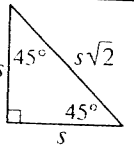
$$V = \pi r^2 h$$



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



Special Right Triangles

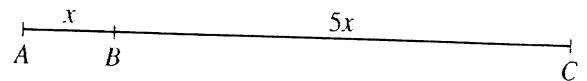


The number of degrees of arc in a circle is 360.

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

1. If $u + w = 9$, what is the sum of u , w , and -12 ?

- (A) -21
 (B) -3
 (C) 3
 (D) 4
 (E) 21



2. In the figure above, the length of \overline{AC} is 12. What is the value of x ?

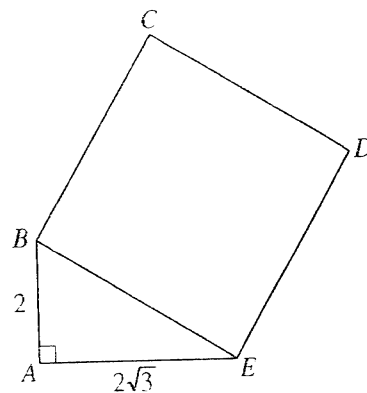
- (A) 2
 (B) 3
 (C) 4
 (D) 5
 (E) 6

GO ON TO THE NEXT PAGE



3. If $\frac{1}{2}$ of a number is 20, what is $\frac{3}{5}$ of twice the number?

(A) 6
(B) 12
(C) 18
(D) 24
(E) 48



5. In the figure above, what is the area of square $BCDE$?
- (A) 9
(B) 12
(C) 16
(D) 27
(E) 48

Candidate	Number of Votes
A	75
B	84
C	60
D	81

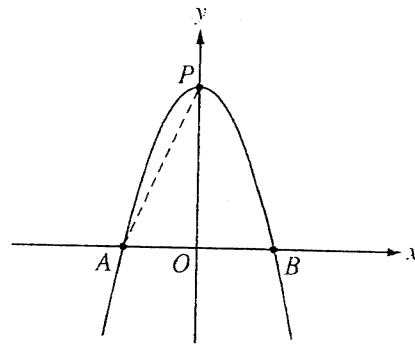
4. The table above shows the number of votes received by the four candidates in an election. If the winning candidate was the one with the most votes, what percent of the votes did not go to the winning candidate?
- (A) 28%
(B) 38%
(C) 49%
(D) 72%
(E) 85%

6. If x and y are positive and $\sqrt{x} = y$, which of the following must be equal to 0?
- (A) $x - y$
(B) $x - \sqrt{y}$
(C) $y - 2x$
(D) $y - x^2$
(E) $y^2 - x$



7. In the three-digit number $2B1$, B represents a digit. If $2B1$ is divisible by 11, what is the remainder when the three-digit number $2B8$ is divided by 11?

- (A) 0
(B) 3
(C) 6
(D) 7
(E) 10



8. The parabola above is the graph of $y = -x^2 + k$, where k is a constant. If $AB = 10$, what is the slope of \overline{AP} ?

- (A) 2
(B) $\frac{5}{2}$
(C) 5
(D) 10
(E) 20



Directions: For Student-Produced Response questions 9-18, use the grids at the bottom of the answer sheet page on which you have answered questions 1-8.

Each of the remaining 10 questions requires you to solve the problem and enter your answer by marking the circles in the special grid, as shown in the examples below. You may use any available space for scratch work.

Answer: $\frac{7}{12}$

Write answer in boxes. →

7	/	1	2

0	0	0	0
1	1	2	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

← Fraction line

Grid in result. →

Answer: 2.5

2	.	5

0	0	0
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9

← Decimal point

Answer: 201

Either position is correct.

2	0	1

0	0	0
1	1	1
2	2	2
3	3	3
4	4	4

2	0	1

0	0	0
1	1	1
2	2	2
3	3	3
4	4	4

Note: You may start your answers in any column, space permitting. Columns not needed should be left blank.

- Mark no more than one circle in any column.
- Because the answer sheet will be machine-scored, **you will receive credit only if the circles are filled in correctly.**
- Although not required, it is suggested that you write your answer in the boxes at the top of the columns to help you fill in the circles accurately.
- Some problems may have more than one correct answer. In such cases, grid only one answer.
- No question has a negative answer.
- **Mixed numbers** such as $3\frac{1}{2}$ must be gridded as 3.5 or 7/2. (If $\frac{31}{2}$ is gridded, it will be interpreted as $\frac{31}{2}$, not $3\frac{1}{2}$.)
- **Decimal Answers:** If you obtain a decimal answer with more digits than the grid can accommodate, it may be either rounded or truncated, but it must fill the entire grid. For example, if you obtain an answer such as 0.6666..., you should record your result as .666 or .667. **A less accurate value such as .66 or .67 will be scored as incorrect.**

Acceptable ways to grid $\frac{2}{3}$ are:

2	/	3

0	0	0
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6

.	6	6	6

0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6

.	6	6	7

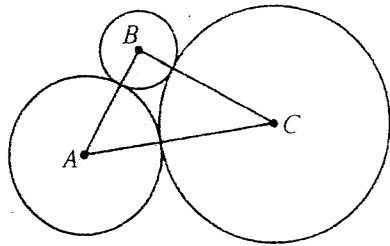
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6

$$38 < 6x + 2 < 44$$

9. What is one possible value of x that satisfies the inequality above?

10. The contents of a candy jar consist of sour balls: 30 yellow, 25 red, 20 green, and 35 orange. Angela will select one of the sour balls at random. What is the probability that the selected sour ball will be either red or green?

GO ON TO THE NEXT PAGE



11. In the figure above, the circle with center A has radius 2, the circle with center B has radius 1, and the circle with center C has radius 3. The circles are tangent as shown. What is the perimeter of $\triangle ABC$?

12. If a and b are positive integers and $20,300 = (2 \times 10^a) + (3 \times 10^b)$, what is the value of $a + b$?

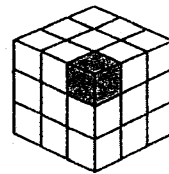
13. The function f is defined by $f(x) = x^2 - 6x + 9$.

What is the value of $\frac{f(6)}{6}$?

14. The degree measures of the three angles in a triangle are $(4x + 25)^\circ$, $(7x - 20)^\circ$, and $(9x + 15)^\circ$. What is the degree measure of the largest angle in the triangle? (Disregard the degree symbol when gridding your answer.)

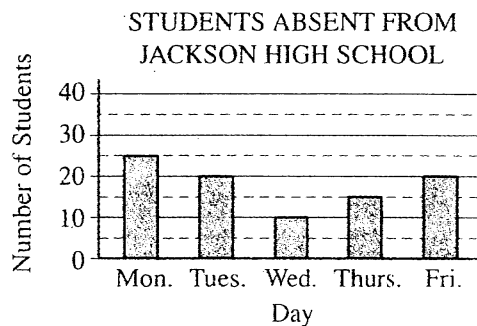


15. An integer k is a "half square" if $2k$ is the square of a positive integer. For example, 18 is a half square because $2 \cdot 18 = 36 = 6^2$. What is the smallest half square that is greater than 100?



17. The cube shown in the figure above is made from 27 small cubes, each with an edge of length 1. If the shaded cube is removed, what will be the surface area of the remaining solid?

16. Company A and Company B are long-distance phone service providers with different rate plans. Company A charges \$0.10 per minute of long-distance service with no additional fees. Company B charges \$0.07 per minute of long-distance service plus a \$4.95 monthly fee. For how many minutes of long-distance service in a month do the two plans charge customers the same amount?



18. The bar graph above shows the number of students who were absent from Jackson High School each day last week. Of those students, 8 were absent exactly 2 days each, 1 was absent 3 days, and no students were absent more than 3 days. If 5 percent of the students in the school were absent at least 1 day last week, how many students are enrolled in Jackson High School?

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 7

Time — 25 minutes

25 Questions

Turn to Section 7 (page 6) 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) ●

1. Because the perfumer possessed an unusually sensitive nose, he had the ability to ----- subtle variations in even the most complex odors.
(A) foretell (B) contain (C) endure
(D) avoid (E) detect
2. The official's record was both ----- and -----: he missed many important votes and never led any legislative initiatives.
(A) scant . . . undistinguished
(B) ambitious . . . identical
(C) short-lived . . . unique
(D) lacking . . . accomplished
(E) reasonable . . . timid
3. Irene is ----- compliments, feeling that they are often nothing but empty flattery.
(A) appreciative of (B) proud of (C) hungry
(D) suspicious of (E) vulnerable to
4. When elected director general of the World Health Organization, Dr. Margaret Chan promised to work -----, to be unflagging in her efforts to produce results.
(A) vaingloriously (B) complacently
(C) indefatigably (D) ineffectually
(E) circumspectly
5. Some deep-sea creatures discovered by marine biologists seem to ----- the imagination, so great is the ----- between these creatures and the more familiar marine organisms found in shallower waters.
(A) baffle . . . enmity
(B) defy . . . disparity
(C) electrify . . . collusion
(D) elucidate . . . discrepancy
(E) exhaust . . . duplicity



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

Questions 6-7 are based on the following passage.

The phenomenon of simultaneous discovery — what science historians call “multiples” — turns out to be extremely common. One of the first comprehensive lists of multiples was put together in 1922 by William Ogburn and Dorothy Thomas; they found 148 major scientific discoveries that fit the multiples pattern. Working independently, both Newton and Leibniz discovered calculus. Three mathematicians “invented” decimal fractions. For Ogburn and Thomas, the sheer number of multiples could mean only one thing: scientific discoveries must, in some sense, be inevitable. They must be in the air, products of the intellectual climate of a specific time and place.

- 6. Which of the following, if true, would best serve to challenge Ogburn and Thomas’ belief that the discovery of calculus is an example of the “phenomenon” mentioned in line 1?
 - (A) Uncovering the existence of a journal that Newton kept while working with calculus
 - (B) Learning that scientists other than Newton and Leibniz had also made substantial progress on calculus
 - (C) Finding a previously unknown letter between Newton and Leibniz discussing calculus that predated its commonly assumed discovery
 - (D) Discovering a series of communications from Leibniz to a mathematical society that discussed a presentation of his work
 - (E) Identifying a minor error in Newton’s original mathematical calculations

- 7. The author mentions the number “148” (line 5) in order to
 - (A) provide an approximation
 - (B) validate a statement
 - (C) illustrate a discrepancy
 - (D) downplay an outcome
 - (E) document a process

Questions 8-9 are based on the following passage.

In 1900, United States society was warming into an environment favorable to women’s suffrage. Governments at all levels were concerning themselves with social welfare. Women considered themselves qualified for these new undertakings. “The instant the State took upon itself educative, charitable, or personally helpful work,” claimed one suffragist, “it became in need of the service of women.” And women became convinced that, to accomplish social improvements, they needed political power, embodied in the vote. Suffragists modified their emphasis on the right to vote, asserting that women had an actual duty to vote. How else could they regulate or abolish child labor? How else could they improve neighborhood health?

- 8. The primary purpose of the passage is to
 - (A) highlight ways of promoting educational reform in the United States
 - (B) discuss the need for better child labor laws in the United States
 - (C) advocate for increased government funding for social welfare programs in the United States
 - (D) show how a focus on social welfare issues promoted women’s suffrage in the United States
 - (E) explain the influence that women’s suffrage had on elected officials in the United States

- 9. As presented in lines 10-14 (“Suffragists . . . health”), the suffragists assumed that the act of voting was
 - (A) arduous
 - (B) divisive
 - (C) imperative
 - (D) duplicitous
 - (E) lucrative



Questions 10-17 are based on the following passage.

This passage, adapted from a 1996 book, discusses literary culture in ancient Greece.

The Greek alphabet was probably invented during the eighth century B.C.E. The new technology did not spread rapidly through Greece; rather, it encountered remarkable resistance in the form of a highly developed and ritualized oral culture. That is, the traditions of prealphabetic Greece were actively preserved in numerous oral stories regularly recited and passed along from generation to generation by the Greek bards, or “rhapsodes” (from the Greek *rhapsodein*, which means “to stitch song together”). The chanted tales carried within their narratives much of the accumulated knowledge of the culture. Since they were not written down, they were never wholly fixed, but would shift slightly with each telling to fit the circumstances or needs of a particular audience, gradually incorporating new practical knowledge while letting the obsolete fall away. There was thus little overt need for the new technology of reading and writing. According to literary historian Eric Havelock, for the first two or three centuries after its appearance in Greece, “the alphabet was an interloper, lacking social standing and achieved use. The elite of society were all reciters and performers.”

In a culture as thoroughly oral as Greek culture in this period, the alphabet could take root only by allying itself, at first, with the oral tradition. Thus, the first large written texts to appear in Greece—namely, the *Iliad* and the *Odyssey*—are, paradoxically, “oral texts.” That is, they are not written compositions, as had long been supposed, but rather transcriptions of orally chanted poems. Their “author” Homer was a rhapsode who improvised from a vast fund of memorized and formulaic phrases, embellishing and elaborating a cycle of stories that had already been variously improvised or “stitched together” by earlier bards since the events the epic poems describe.

We owe our recognition of the oral nature of the Homeric epics to the pioneering research undertaken by Milman Parry and his assistant Albert Lord in the 1930s. Parry had noticed the existence of certain stock phrases—such as “there spoke clever Odysseus,” or “when Dawn spread out her fingertips of rose”—that are continually repeated throughout the poems. Careful study revealed that the poems were composed almost entirely of such expressions (in the 27,000 lines of poetry there are more than 29,000 repetitions of phrases with two or more words). Moreover, Homer’s choice of one particular phrase rather than another seemed at times to be governed less by its exact meaning than by what the rhythm and structure of the line demanded; the bard apparently called upon one

specific formula after another in order to fit the driving beat of the chant, in a trance of rhythmic improvisation. This is not at all to minimize Homer’s genius, but simply to indicate that his poetic brilliance was performative as much as creative—less the genius of an author writing a great novel than that of an inspired and eloquent rap artist.

10. The first paragraph of the passage (lines 1-21) implies that when the Greek alphabet was invented it was at first thought to be
- (A) beneficial
 - (B) pragmatic
 - (C) superfluous
 - (D) onerous
 - (E) subversive
11. Lines 11-15 (“Since . . . away”) suggest that an important attribute of the Greeks’ oral tradition was that
- (A) oral performance promoted social cohesion by facilitating group interaction
 - (B) oral storytellers did not require special training or technical knowledge
 - (C) newly created stories could spread quickly throughout the culture
 - (D) stories could be changed in response to social changes
 - (E) stories could be enhanced by storytellers’ physical gestures and movements
12. In line 12, “fixed” most nearly means
- (A) static
 - (B) fraudulent
 - (C) repaired
 - (D) adjusted
 - (E) solved
13. The author quotes Eric Havelock in lines 19-21 in order to help explain the
- (A) way that oral narratives changed to incorporate new knowledge
 - (B) shifting nature of the Greek alphabet in its first few centuries
 - (C) attitude of the Greeks toward the alphabet around the time of its introduction
 - (D) reasons why a written alphabet was eventually adopted in Greece
 - (E) social factors contributing to the invention of the Greek alphabet



14. The “pioneering research” (line 35) primarily involved

- (A) a speculative attempt to re-create poems in Homer’s style
- (B) a careful comparison of Homer’s poems to those of other Greek poets
- (C) a thorough analysis of the language used in Homer’s poems
- (D) a comprehensive examination of earlier versions of Homer’s stories
- (E) an unprecedented discovery of new works by Homer

15. The passage suggests that before the work of Milman Parry and Albert Lord, scholars believed that

- (A) the Greek alphabet was widely used by Greeks of Homer’s era
- (B) most of the Greek rhapsodes were unable to read and write
- (C) the Homeric epics were meant to be sung or chanted
- (D) the *Iliad* and the *Odyssey* described purely fictional events
- (E) the *Iliad* and the *Odyssey* were created as written texts

16. The author implies that the “certain stock phrases” mentioned in line 37 were often selected based on

- (A) how well they fit the sound and form of a certain part of the poem
- (B) how precisely they captured the exact details of a scene in the poem
- (C) how unfamiliar and interesting they would be to a particular audience
- (D) how easy they were for a poet’s audience to remember
- (E) how efficiently they could move the narrative of the poem along

17. In line 47, “called upon” most nearly means

- (A) obliged
- (B) proposed
- (C) invited
- (D) utilized
- (E) visited



Questions 18-25 are based on the following passage.

This passage is adapted from a 1997 novel. The narrator, who has emigrated from the Dominican Republic to the United States, is discussing his daughter Yo, who is a writer.

- Of all my girls, I always felt the closest to Yo. My wife says it is because we are so much alike, knocking her head with her knuckles as she says so. But that is not why I feel closest to Yo, no.
- 5 She looks at me, and I know that she can see all the way back to when I was a boy in half trousers raising my hand in that palm-wood schoolhouse. *What color is the hair of God? When you reduce a sum by its shadow and multiply it by its reflection, what will you get?* Our teacher, who called
- 10 himself Professor Cristiano Iluminado, spouted his wild questions. Soon after I passed on to the higher school, the professor was taken away to an asylum to contemplate the mathematics of the stars. But, and this is the point of my anecdote, I was the only child in that classroom raising
- 15 my hand to answer those impossible questions. And Yo sees that one hand waving when she looks into my eyes. So that I am blessed—and sometimes cursed—with a child who understands my secret heart. I should not say child anymore, for she is a grown woman who is
- 20 already preparing herself. When she looks at me these days, she can see that fresh-dug hole in the mountain cemetery near the town where I was born, the flash of the river between the trees.
- She writes me one, two letters a week. Sometimes
- 25 she includes an old black-and-white photo with those scalloped edges as if all memories deserve a little lace doily to lay on. A young handsome man sits with a young lady in a crowded booth in a bar sixty years ago. With those pasting papers which were invented for her because
- 30 she always has to put her two cents on everything, she writes, *Where was this taken? Who is the girl beside you? Were you really in love?* She strikes right for the secret heart of that young man!
- Most of the things she asks I tell her. I run the past
- 35 through a sieve of judgment in my head, and if there is no harm, I give her the full cup of my life to drink from. Some little things catch in that fine net, and I leave them out or I make a broad statement. But then the next letter arrives full of interrogation: *Papi, you say you had to escape the*
- 40 *island because you were in a revolution in 1939 and I can't find any mention of it in the book. You say that you were in a log-cabin hospital at Lac Abitibi near the Laurentians and I look on the map and Lac Abitibi is nowhere near the Laurentians. Are these just lapses of memory or did you*
- 45 *make the whole thing up and if so why?*

And then I have to explain, sieving everything over again. Until the next letter arrives, and I explain some more, and after a while, I lose that quality control. Before I know it, I've told her the whole story I did not want her

50 and the others to know.

Is that really so? I ask myself. Don't I want to be know before I go? And perhaps Yo sees that secret desire, stronger than all the other secrets in my heart, and that is why she keeps asking.

18. The passage is best described as a
- (A) formal discourse
(B) lighthearted conversation
(C) reasoned defense
(D) passionate argument
(E) personal reflection
19. The wife's gesture (lines 2-3) is best described as
- (A) teasing
(B) comforting
(C) romantic
(D) clumsy
(E) frantic
20. The questions in lines 7-9 ("*What . . . get?*") serve to
- (A) suggest a series of vague recollections
(B) raise profound concerns about a particular curriculum
(C) emphasize the father's antipathy toward school as a child
(D) convey the teacher's eccentric approach
(E) reveal Yo's suspicion of her father's teacher
21. The narrator claims that the "point" (line 13) of his anecdote is that he
- (A) was easily deceived by preposterous requests
(B) was unique in responding to his teacher's queries
(C) was excluded from many classroom activities
(D) felt annoyed by students who spoke out of turn
(E) was superior to his classmates academically



22. The term “secret heart” (line 18 and lines 32-33) is used in the passage to stand for
- (A) the narrator’s undisclosed self
 - (B) the narrator’s unexpressed love for Yo
 - (C) a romance during the narrator’s youth
 - (D) a mystery from the narrator’s childhood
 - (E) a goal that the narrator never achieved
23. In the metaphor in lines 34-38 (“I run . . . statement”), what passes through the sieve?
- (A) Memories that the narrator recalls only partially
 - (B) Accusations that the narrator cannot easily deny
 - (C) Information that the narrator is willing to share
 - (D) Falsehoods to hide the narrator’s shame
 - (E) Excuses to rationalize the narrator’s shortcomings
24. The narrator uses the term “quality control” (line 48) to refer to his ability to
- (A) raise his daughters as he believes they should be raised
 - (B) correct the many misconceptions he finds in Yo’s letters
 - (C) exclude certain details from the personal experiences he relates
 - (D) provide information only to Yo about his relationship with his wife
 - (E) keep secret all of his private wishes and desires in life
25. How does the narrator feel about his correspondence with Yo?
- (A) He is flattered by her compliments and responds by exaggerating in many of his anecdotes.
 - (B) He is suspicious of her motives and wishes she would curtail the letters.
 - (C) He appreciates her dedication and takes fatherly pride in her success in life.
 - (D) He is angry at her accusations but nevertheless wants to placate her.
 - (E) He is moved by her attention but somewhat ambivalent about the potential exposure.

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

1. Maria never ----- advice: she prefers to solve her problems without help from others.
(A) refuses (B) forgets (C) offers
(D) seeks (E) discounts
2. The ----- of homing pigeons to sense Earth's magnetic field may serve as ----- tool in helping them find their way home, even across hundreds of miles.
(A) determination . . a useless
(B) unsuitability . . a helpful
(C) ability . . a valuable
(D) instinct . . an inferior
(E) reluctance . . an undiscovered

3. Because they make up just a small percent of all objects that fall to Earth, carbonaceous meteorites are considered -----.
(A) complex (B) large (C) rare
(D) dense (E) nonexistent
4. The vocation of literary criticism should in no way ----- the critic's pleasure in a work of art; at the same time, however, such enjoyment should not ----- judgment.
(A) extend . . preclude
(B) inhibit . . skew
(C) inspire . . disguise
(D) encourage . . supplant
(E) moderate . . hone
5. It is not surprising that the writings of this philosopher are among the most ----- in the field, because he deliberately makes them easy to -----.
(A) complex . . comprehend
(B) accessible . . understand
(C) confusing . . interpret
(D) popular . . ignore
(E) profound . . read
6. The meeting had ----- effect on Hannah: she found that her concerns about the new policy were adequately addressed.
(A) a mollifying (B) a bewildering
(C) a soporific (D) an insidious
(E) an indiscernible



The two passages below are followed by questions based on their content and on the relationship between the two passages. Answer the questions on the basis of what is stated or implied in the passages and in any introductory material that may be provided.

Questions 7-19 are based on the following passages.

In the 1980s, primatologist Sue Savage-Rumbaugh began teaching English to Kanzi, a bonobo ape. Passage 1 was adapted from a 2004 book about animals and language, Passage 2 from a 1998 book by Savage-Rumbaugh and her colleagues.

Passage 1

The principal evidence that has been cited for Kanzi's ability to understand language comes from his comprehension of spoken English. Kanzi can respond appropriately to requests like *Take the snake outdoors* (referring to his toys). He can also understand completely new and strange commands, like *Wash the TV*. Clearly he is able to understand actions based solely on their description. He also understands the order of words: he can satisfactorily distinguish between *Make the doggie bite the snake* and *Make the snake bite the doggie*. This is a totally unprecedented result in the literature on animal cognition, but it does not in itself argue that Kanzi understands language in the same way humans do, as governed by grammatical rules. Perhaps Kanzi has learned that certain utterances have places in them where there is room for one of a small set of different possibilities. Such an analysis would not require any appreciation of grammatical structure. The range of patterns on which Kanzi has been tested is limited, but very little in the way of grammatical knowledge seems to be required. In fact, Kanzi's performance is quite poor on those sentences whose interpretation requires knowledge of purely grammatical words, such as prepositions (*with*, *on*) or conjunctions (*and*, *but*). Distinctions such as those between putting something *in*, *on*, or *next to* something else appear not to be made. Sentences with *and* (like *Go to the refrigerator and get the banana*) frequently resulted in mistakes of a kind that suggest such words simply went uninterpreted. Actions and objects, as represented by verbs and concrete nouns, correspond to things in the world (as *ball* refers to a ball), and they are what Kanzi understands. Grammatical units like prepositions and conjunctions, however, are totally linguistic—they don't refer to any real objects or actions that Kanzi could see—and thus he ignores them and the grammatical structures they represent.

It may seem that I have gone to great lengths to avoid the conclusion that Kanzi has a meaningful appreciation of the grammar of English, given that he can apparently understand many English sentences. It is certainly not my intent to underestimate the interest and importance of the abilities that Savage-Rumbaugh has demonstrated in Kanzi. But the evidence does not in fact show that he has acquired an understanding of the structure of language. Without that, he cannot be said to have acquired language in its core sense.

Passage 2

To address the question of whether Kanzi uses grammatical rules, I looked at a large group of his communications with the help of Patricia Greenfield, an expert on language development in children. We found that Kanzi utilizes word order in many of his combinations. Interestingly, in describing actions, he tends to put the action first and the agent second, for example, *chase you* when he wants us to chase him. Standard English, in contrast, places the agent first and the object second (*you chase*). However, when he forms such combinations, Kanzi usually indicates the agents by pointing to them, something that is not characteristic of spoken English. When Kanzi uses a proper name in combinations like *Liz hide* or *Matata bite*, he tends to follow English word order. Thus, Kanzi's deviations from English word order occur mostly when there are also deviations in the mode of expression—that is, they occur when Kanzi uses a gesture rather than a symbol. This is a rule of Kanzi's own making and one that only Kanzi typically follows.

Our analysis thus suggests that Kanzi has developed some simple grammatical strategies or rules. Kanzi's communications strongly challenge the assumption that apes are unable to manipulate words according to grammatical conventions. Many scholars have argued that the utterances of apes should not be characterized as true language unless they employ grammatical rules similar to those found in human languages.

This seems to me an extreme position. After all, Kanzi knows that words can be used to communicate about things he wants and he can purposefully combine symbols to tell us something we would have no way of knowing otherwise. He recognizes that two symbols can be combined to form



- meanings that neither symbol in isolation could ever convey. He uses this skill to communicate completely novel ideas that are his own and have never been talked about with him. And he has simple grammatical rules, even if they are not rules human languages would use.
- Such an extreme view is taken, I believe, because many scientists are hesitant to conclude that apes are capable of rational thought, foresight, or purposeful communication. If we allow that apes such as Kanzi are indeed attempting to tell us what is on their minds, we lose our scientific claim to having drastically different minds from all other creatures on the planet.
- 80
- 85
- 90
7. The primary purpose of each passage is to
 - (A) put forth proposals for new behavioral research with apes
 - (B) evaluate a new theory pertaining to ape behavior
 - (C) point out how apes mimic the speech patterns of humans
 - (D) explore the significance of language use by a particular ape
 - (E) document how a certain species of apes acquires language skills
 8. The two authors differ in their approach to their subject matter in that the author of Passage 1
 - (A) refers to Kanzi in order to make larger points about language, while the author of Passage 2 restricts her consideration solely to Kanzi
 - (B) reports on Kanzi's ability to follow directions, while the author of Passage 2 describes Kanzi's refusal to comply with requests
 - (C) places Kanzi in the context of other studies, while the author of Passage 2 selectively ignores previous research
 - (D) emphasizes Kanzi's responses to words, while the author of Passage 2 focuses on Kanzi's ability to communicate
 - (E) discusses Kanzi as a unique entity, while the author of Passage 2 highlights Kanzi's similarities to other apes
 9. The author of Passage 1 chiefly regards the "evidence" (lines 1 and 43) as
 - (A) insufficient
 - (B) outdated
 - (C) uninteresting
 - (D) predictable
 - (E) undervalued
 10. The function of lines 14-16 ("Perhaps . . . possibilities") is to
 - (A) deflect a commonly raised objection
 - (B) note a shortcoming of a theory
 - (C) acknowledge an unjustified bias
 - (D) offer an alternative explanation
 - (E) apply a familiar claim to a new context
 11. In line 17, "appreciation" most nearly means
 - (A) gratitude
 - (B) admiration
 - (C) comprehension
 - (D) improvement
 - (E) increase
 12. In lines 29-36, the author of Passage 1 indicates that Kanzi does NOT understand
 - (A) gestures made by humans
 - (B) certain spoken commands
 - (C) language that describes actions
 - (D) the difference between actions and objects
 - (E) words that are exclusively linguistic
 13. Lines 37-40 ("It . . . sentences") serve to
 - (A) admit that a view is largely speculative
 - (B) confess to a personal bias against an idea
 - (C) acknowledge that a position might appear unreasonable
 - (D) concede that an opposing argument is indeed convincing
 - (E) recognize that a proposed plan may be difficult to enact
 14. For the author of Passage 1, Kanzi's understanding of which of the following would be most indicative of a command of English grammar?
 - (A) "Bite doggie."
 - (B) "Matata play ball."
 - (C) "Liz hide in the box."
 - (D) "Make the snake chase Liz."
 - (E) "Liz wash the red TV."
 15. The author of Passage 1 would most likely say that the "assumption" mentioned in line 68, Passage 2, is
 - (A) clearly false
 - (B) possibly mistaken
 - (C) hopelessly ambiguous
 - (D) easy for scientists to revise
 - (E) not yet shown to be wrong



16. Based on lines 84-90, the author of Passage 2 would most likely characterize the author of Passage 1 as
- (A) overly dismissive of scientific conventions
 - (B) insufficiently skeptical of human uniqueness
 - (C) wrongly convinced of the importance of foresight
 - (D) readily willing to challenge preconceived notions
 - (E) reluctantly optimistic about the abilities of apes
17. Unlike the author of Passage 1, the author of Passage 2 explicitly expresses a view about the
- (A) origins of human language
 - (B) study of animal communication
 - (C) motivations of other scientists
 - (D) history of linguistic research
 - (E) reliability of observational evidence
18. The final paragraph of Passage 2 suggests the author's belief that Kanzi's abilities
- (A) have not yet been the subject of enough research
 - (B) have significant scientific implications
 - (C) will lead to a revolution in scientific methods
 - (D) are likely shared by other nonhuman primates
 - (E) are hard to compare to human abilities
19. In their arguments, both authors make use of
- (A) personal anecdotes
 - (B) historical analogies
 - (C) behavioral evidence
 - (D) statistical data
 - (E) scholarly citations

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

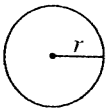
Turn to Section 9 (page 7) of your answer sheet to answer the questions in this section.

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

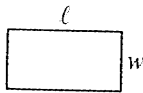
- The use of a calculator is permitted.
- All numbers used are real numbers.
- Figures that accompany problems in this test are intended to provide information useful in solving the problems. They are drawn as accurately as possible EXCEPT when it is stated in a specific problem that the figure is not drawn to scale. All figures lie in a plane unless otherwise indicated.
- 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

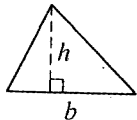


$$A = \pi r^2$$

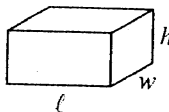
$$C = 2\pi r$$



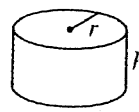
$$A = \ell w$$



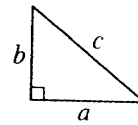
$$A = \frac{1}{2}bh$$



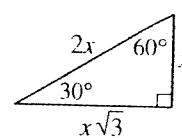
$$V = \ell wh$$



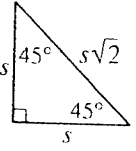
$$V = \pi r^2 h$$



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



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 $5a - b = 8$ and $a = 3$, what is the value of b ?

- (A) -23
(B) -7
(C) 7
(D) 15
(E) 23

2. What is the greatest number of pieces of cord, each 7 inches long, that can be cut from a cord that is 5 feet long? (12 inches = 1 foot)

- (A) 1
(B) 2
(C) 5
(D) 7
(E) 8

GO ON TO THE NEXT PAGE



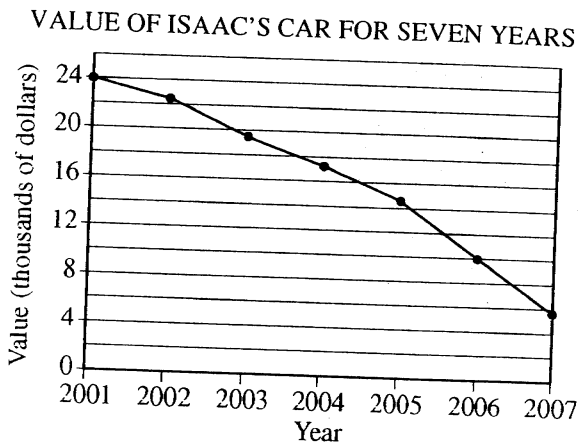
3. If $x = 1$ when $y = 2$ and if $x = 3$ when $y = 6$, which of the following equations could express y in terms of x ?

- (A) $y = x + 1$
 (B) $y = x + 3$
 (C) $y = 2x$
 (D) $y = 2x + 2$
 (E) $y = 3x - 3$

3, 8, 13, 18, ...

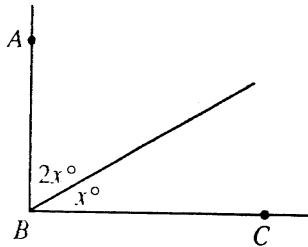
5. The first term in the sequence above is 3, and each term after the first term is 5 more than the preceding term. Which of the following numbers is a term in the sequence?

- (A) 998
 (B) 999
 (C) 1,000
 (D) 1,001
 (E) 1,002

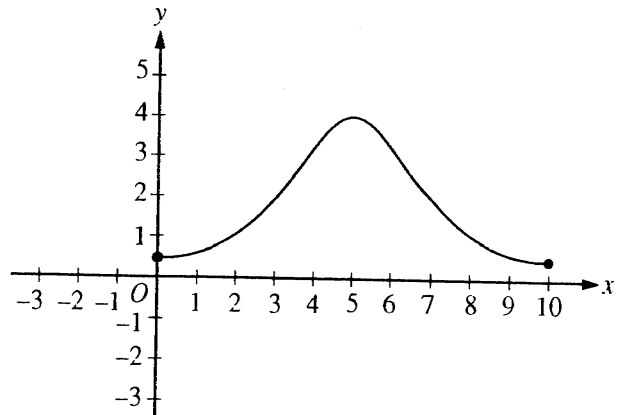


4. The line graph above shows the value of Isaac's car in January of each of seven years. Based on the graph, for which of the following years was the value of Isaac's car closest to half of its 2003 value?

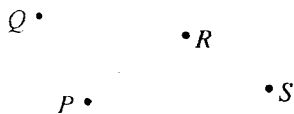
- (A) 2001
 (B) 2004
 (C) 2005
 (D) 2006
 (E) 2007



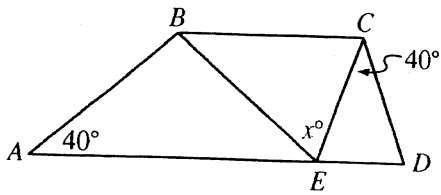
6. In the figure above, $\overline{AB} \perp \overline{BC}$. What is the value of x ?
- (A) 25
(B) 30
(C) 33
(D) 45
(E) 90



8. The graph of the function f is shown above. Which of the following are true?
- I. $f(2) > f(1)$
 II. $f(5) > f(4)$
 III. $f(7) > f(9)$
- (A) II only
 (B) I and II only
 (C) I and III only
 (D) II and III only
 (E) I, II, and III



7. In the figure above, exactly one line segment is to be drawn connecting each pair of points. How many line segments will be drawn?
- (A) Three
(B) Four
(C) Six
(D) Eight
(E) Twelve



9. In the figure above, $AB = BE$ and $EC = CD$. What is the value of x ?

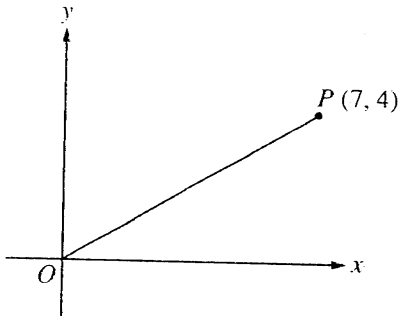
(A) 40
(B) 50
(C) 60
(D) 70
(E) 80

11. A list consists of 21 consecutive integers. What is the difference between the median of the list and the average (arithmetic mean) of the list?

(A) 0
(B) 0.5
(C) 1
(D) 1.5
(E) 2

10. Luis and Stacy each contributed money to pay for a trip. They contributed a total of \$480, and Luis contributed \$30 more than twice the amount that Stacy contributed. How much money did Luis contribute for the trip?

(A) \$150
(B) \$230
(C) \$300
(D) \$330
(E) \$450



12. In the xy -coordinate system above, \overline{OP} is one side of a square (not shown). What is the length of a diagonal of the square?
- (A) 11
 (B) 12
 (C) $\sqrt{130}$ (approximately 11.40)
 (D) $\sqrt{176}$ (approximately 13.27)
 (E) $11\sqrt{2}$ (approximately 15.56)

13. Company X packages cookies in boxes, targeting the weight of a box of cookies to be 500 grams. Any box of cookies that is within 15 grams of the target weight is acceptable. Which of the following represents all possible acceptable values of the weight, w , in grams, of a box of cookies?
- (A) $|w - 500| = 15$
 (B) $|w| - 500 \geq 15$
 (C) $|w| - 500 \leq 15$
 (D) $|w - 500| \geq 15$
 (E) $|w - 500| \leq 15$

14. In the xy -plane, line ℓ passes through the origin and the point $(2, 7)$. Which of the following is an equation of a line that is perpendicular to line ℓ ?

- (A) $y = -\frac{7}{2}x - 2$
 (B) $y = -\frac{2}{7}x + 7$
 (C) $y = \frac{2}{7}x + 4$
 (D) $y = \frac{7}{2}x - 3$
 (E) $y = 2x + 7$



15. The lengths of two sides of a triangle are 5 and 12, and the length of the third side is an integer. What is the greatest possible perimeter of the triangle?

(A) 22
(B) 29
(C) 30
(D) 33
(E) 34

16. A hiking trail is 19 miles long. There is a marker at the start of the trail and a marker every 2.5 miles. There is a rest area at the start of the trail and a rest area every 6 miles. What is the ratio of the number of markers to the number of rest areas on the entire trail?

(A) 2 to 1
(B) 4 to 1
(C) 5 to 12
(D) 7 to 3
(E) 8 to 3

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. Lorena Ochoa has been recognized not only as a champion golfer but also being a humanitarian, having created a foundation to support young people in Mexico.
 - (A) but also being
 - (B) but also as
 - (C) she also is
 - (D) also that she is
 - (E) and also as
2. Relations between the United States and China began to thaw in 1971, when the Chinese table-tennis team invited its American counterpart to play in a series of exhibition matches.
 - (A) when the Chinese table-tennis team invited
 - (B) where the Chinese table-tennis team had invited
 - (C) as the Chinese table-tennis team invites
 - (D) that was when the Chinese table-tennis team invited
 - (E) the Chinese table-tennis team invited
3. Crows and their relatives—which include ravens, magpies, and jays—are renowned for their intelligence and the capability to flourish in landscapes dominated by humans.
 - (A) the capability
 - (B) are capable
 - (C) how they are able
 - (D) their ability
 - (E) to be able
4. Leaders of programs that promote gender equity frequently point to the role that parents and educators play in promoting young women's interest in science, technology, and math.
 - (A) play in promoting
 - (B) plays in promoting
 - (C) is playing to promote
 - (D) plays to promote
 - (E) having played in promoting



5. Although all primates use vocal and facial expressions to communicate, only the great apes—chimpanzees, bonobos, orangutans, and gorillas—use gestures as well, they share this behavior with humans.
- (A) they share this behavior
(B) this behavior is shared
(C) sharing which behavior
(D) a behavior shared by them
(E) a behavior they share
6. When boarding a train, one should stand to the side and allow other travelers to disembark before you attempt to enter.
- (A) you attempt to enter
(B) you attempted to enter
(C) you enter
(D) attempting to enter
(E) one attempted entering
7. Medieval Icelandic sagas, which range from epic tales about legendary figures to factual accounts of Icelandic history.
- (A) sagas, which range
(B) sagas, they range
(C) sagas, ranging
(D) sagas ranges
(E) sagas range
8. Distinguished by its highly repetitive rhyme scheme, many poets have used the villanelle, a poetic form, including Dylan Thomas and Sylvia Plath.
- (A) many poets have used the villanelle, a poetic form, including Dylan Thomas and Sylvia Plath
(B) many poets, including Dylan Thomas and Sylvia Plath, have used the villanelle, a poetic form
(C) the villanelle is a poetic form that has been used by many poets, including Dylan Thomas and Sylvia Plath
(D) the villanelle, a poetic form that many poets, including Dylan Thomas and Sylvia Plath, have used
(E) Dylan Thomas and Sylvia Plath were among the many poets who have used the villanelle, a poetic form
9. Maize, like millet and sorghum, is a kind of grass, but being distinguished by its large seed heads and matures more quickly than they do.
- (A) but being distinguished by its large seed heads and matures more quickly than they do
(B) but it is distinguished from them by its large seed heads and quicker maturation
(C) but its large seed heads distinguish it from them and matures more quickly than they do
(D) and is distinguished by having large seed heads and also because it matures more quickly than them
(E) which is distinguished by its large seed heads and by a maturation that is quicker than they have
10. Before he was elected governor of New Mexico in 1918, Octaviano Larrazolo had helped to ensure that the constitution of this new state guaranteed equal rights for Hispanic Americans.
- (A) Larrazolo had helped
(B) Larrazolo has helped
(C) Larrazolo, helped
(D) Larrazolo, he helped
(E) Larrazolo, helping
11. The 1922 silent film *The Toll of the Sea* is notable both for being the first commercial movie shot entirely in Technicolor and Chinese American actor Anna May Wong was starring in it.
- (A) Chinese American actor Anna May Wong was starring in it
(B) Chinese American actor Anna May Wong starred in the film as well
(C) for starring Anna May Wong, a Chinese American actor
(D) its star was Chinese American actor Anna May Wong
(E) it starred Anna May Wong, a Chinese American actor



12. The inventor studied the tiny hooks on cockleburrs that had stuck tightly to his clothing and then created a fabric fastener that operated similarly in much the same way.
- (A) clothing and then created a fabric fastener that operated similarly in much the same way
 (B) clothing and then created a fabric fastener that operated similarly
 (C) clothing, then creating a fabric fastener operating similarly in much the same way
 (D) clothing, then a fabric fastener that operated similarly was created by him
 (E) clothing, he then created a fabric fastener that operated similarly
13. In the United States, the legal systems of 49 of the states were modeled after English law, but Louisiana was based on the Napoleonic Code and Roman law.
- (A) but Louisiana
 (B) although Louisiana
 (C) that of Louisiana
 (D) whereas Louisiana's
 (E) however Louisiana's
14. Our tour guide requested that, while hiking through the national park, our garbage not be thrown on the trails.
- (A) our garbage not be thrown
 (B) our garbage should not be thrown
 (C) not to throw our garbage
 (D) we did not throw our garbage
 (E) we not throw our garbage

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.

Correct Answers and Difficulty Levels Form Codes AEIE, BWIE

Critical Reading

Section 5			Section 7			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. A 1	13. C 3	1. E 1	14. C 3	1. D 1	11. C 2	2. B 1	12. E 2	
2. B 1	14. A 1	2. A 1	15. D 2	3. D 2	13. C 5	3. A 1	14. C 5	
3. A 1	15. D 2	3. D 2	16. B 3	4. C 4	15. E 4	4. E 3	16. B 5	
4. E 3	16. B 3	4. C 4	17. D 4	5. B 5	17. C 5	5. A 4	17. C 5	
5. A 4	17. D 4	5. B 5	18. D 3	6. C 4	18. E 4	6. B 4	18. B 4	
6. B 4	18. D 3	6. C 4	19. A 2	7. B 3	19. C 2	7. D 5	19. C 2	
7. D 5	19. D 3	7. B 3	20. D 4	8. D 2		8. D 5		
8. D 5	20. C 3	8. D 2	21. B 3	9. C 2		9. C 3		
9. C 3	21. A 3	9. C 2	22. A 3	10. C 5		10. A 2		
10. A 1	22. B 3	10. C 5	23. C 3	11. D 2		11. B 2		
11. B 2	23. A 3	11. D 2	24. C 3	12. A 4		12. D 3		
12. D 3		12. A 4	25. E 3	13. C 3				

Number correct

Number incorrect

Number correct

Number incorrect

Number correct

Number incorrect

Mathematics

Section 2		Section 6			Section 9	
COR. DIFF. ANS. LEV.	COR. DIFF. ANS. LEV.	Multiple-Choice Questions COR. DIFF. ANS. LEV.	Student-Produced Response Questions COR. ANS.	DIFF. LEV.	COR. DIFF. ANS. LEV.	COR. DIFF. ANS. LEV.
1. E 1	11. A 3	1. B 1	9. $6 < x < 7$	2	1. C 1	9. D 3
2. C 2	12. E 3	2. A 1	10. $9/22...409$	2	2. E 1	10. D 3
3. A 1	13. E 3	3. E 2	11. 12	2	3. C 1	11. A 3
4. D 1	14. D 3	4. D 2	12. 6	3	4. D 1	12. C 4
5. B 2	15. D 3	5. C 2	13. $3/2, 1.5$	3	5. A 2	13. E 3
6. E 2	16. C 4	6. E 3	14. 87	3	6. B 1	14. B 4
7. B 2	17. B 3	7. D 3	15. 128	4	7. C 2	15. D 5
8. A 2	18. E 4	8. C 5	16. 165	4	8. E 3	16. A 5
9. B 2	19. A 5		17. 54	4		
10. A 2	20. C 5		18. 1600	5		

Number correct

Number incorrect

Number correct

Number incorrect

Number correct
(9-18)

Number correct

Number incorrect

Writing Multiple-Choice

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

Number correct

Number incorrect

Number correct

Number incorrect

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).

SAT Score Conversion Table Form Codes AEIE, BWIE

Raw Score	Critical Reading Scaled Score	Math Scaled Score	Writing Multiple-Choice Scaled Score	Raw Score	Critical Reading Scaled Score	Math Scaled Score	Writing Multiple-Choice Scaled Score
67	800			31	490	540	53
66	800			30	490	530	52
65	800			29	480	520	51
64	780			28	480	510	50
63	760			27	470	510	49
62	740			26	460	500	49
61	720			25	460	490	48
60	710			24	450	480	47
59	700			23	440	480	46
58	690			22	440	470	45
57	670			21	430	460	44
56	660			20	430	450	43
55	650			19	420	440	42
54	640	800		18	410	440	42
53	640	770		17	400	430	41
52	630	740		16	400	420	40
51	620	720		15	390	410	39
50	610	710		14	380	410	38
49	610	700	80	13	380	400	38
48	600	680	79	12	370	390	37
47	590	670	76	11	360	380	36
46	590	660	73	10	350	370	35
45	580	650	71	9	340	360	34
44	570	650	69	8	330	350	33
43	570	640	67	7	320	340	33
42	560	630	66	6	310	330	32
41	550	620	64	5	300	320	31
40	550	610	63	4	290	310	30
39	540	600	62	3	270	300	28
38	540	590	60	2	260	280	27
37	530	580	59	1	240	270	26
36	520	580	58	0	220	250	24
35	520	570	57	-1	200	230	22
34	510	560	56	-2	200	220	20
33	510	550	55	-3	200	200	20
32	500	540	54	and below			

This table is for use only with the test in this booklet.

SAT Writing Composite Score Conversion Table Form Code AEIE

Writing MC Raw Score	Essay Raw Score											
	12	11	10	9	8	7	6	5	4	3	2	0
49	800	800	800	800	790	770	750	730	720	710	700	680
48	800	800	800	780	750	730	720	700	690	680	660	650
47	800	790	770	760	730	710	690	680	670	650	640	620
46	790	770	750	730	710	690	670	650	640	630	620	600
45	770	750	730	720	690	670	650	640	630	610	600	580
44	750	740	720	700	670	650	640	620	610	600	580	570
43	740	720	700	690	660	640	620	610	600	580	570	550
42	720	710	690	670	650	620	610	590	580	570	560	540
41	710	700	680	660	630	610	600	580	570	560	540	530
40	700	690	670	650	620	600	590	570	560	550	530	520
39	690	680	650	640	610	590	570	560	550	530	520	510
38	680	670	640	630	600	580	560	550	540	520	510	490
37	670	660	630	620	590	570	550	540	530	510	500	480
36	660	650	620	610	580	560	540	530	520	500	490	480
35	650	640	620	600	570	550	540	520	510	500	480	470
34	640	630	610	590	560	540	530	510	500	490	470	460
33	630	620	600	580	560	530	520	500	490	480	470	450
32	630	610	590	580	550	530	510	490	480	470	460	440
31	620	600	580	570	540	520	500	490	480	460	450	430
30	610	600	570	560	530	510	490	480	470	450	440	420
29	600	590	570	550	520	500	490	470	460	450	430	420
28	590	580	560	540	520	490	480	460	450	440	430	410
27	590	570	550	540	510	490	470	460	450	440	430	400
26	580	570	540	530	500	480	460	450	440	420	410	390
25	570	560	540	520	490	470	460	440	430	420	400	390
24	560	550	530	510	490	460	450	430	420	410	400	380
23	560	540	520	510	480	460	440	430	420	400	390	370
22	550	540	510	500	470	450	430	420	410	390	380	370
21	540	530	510	490	460	440	430	410	400	390	370	360
20	540	520	500	480	460	440	420	400	390	380	370	350
19	530	520	490	480	450	430	410	400	390	370	360	340
18	520	510	490	470	440	420	410	390	380	370	350	340
17	510	500	480	460	440	410	400	380	370	360	350	330
16	510	490	470	460	430	410	390	380	370	350	340	320
15	500	490	470	450	420	400	390	370	360	350	330	320
14	490	480	460	440	420	390	380	360	350	340	330	310
13	490	470	450	440	410	390	370	360	350	330	320	300
12	480	470	450	430	400	380	370	350	340	330	310	300
11	470	460	440	420	400	370	360	340	330	320	310	290
10	470	450	430	420	390	370	350	340	330	310	300	280
9	460	450	420	410	380	360	340	330	320	300	290	280
8	450	440	420	400	370	350	340	320	310	300	280	270
7	450	430	410	390	370	350	330	310	300	290	280	260
6	440	420	400	390	360	340	320	310	300	280	270	250
5	430	420	390	380	350	330	310	300	290	270	260	240
4	420	410	380	370	340	320	300	290	280	260	250	240
3	410	400	370	360	330	310	290	280	270	250	240	230
2	400	390	360	350	320	300	280	270	260	240	230	210
1	390	370	350	340	310	290	270	260	250	230	220	200
0	370	360	340	320	300	270	260	240	230	220	210	200
-1	360	350	320	310	280	260	240	230	220	200	200	200
-2	340	330	310	290	260	240	230	210	200	200	200	200
-3	330	310	290	280	250	230	210	200	200	200	200	200
-4 and below	310	300	280	260	240	210	200	200	200	200	200	200

This table is for use only with the test in this booklet.