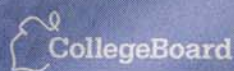


Form Codes AERV, BWRV, CFRV



The SAT[®]

Reasoning Test

Question-and-Answer Service October 2008 Administration

INSIDE:

- Test questions and correct answers
- The difficulty level for each question
- Your essay prompt and all other essay prompts administered on your test day
- Instructions for scoring your test
- Suggestions for using this report

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SAT

Using Your Question-and-Answer Service (QAS) Report

This booklet contains the SAT® you took in October 2008, starting with all the essay prompts given in October, including the one you answered. It also includes scoring information. If the SAT you took included an unscored “equating” section, this booklet will not include that section.

Reviewing Your SAT Results

To make the best use of your personalized QAS report, we suggest that you:

- Read each question in the booklet, then check the report for the type of question, the correct answer, how you answered it, and the difficulty level.
- Analyze test questions you answered incorrectly to understand why your answer was incorrect. Check to see whether you might have misread the question or mismarked the answer.
- Keep track of how you did on the different types of questions (as labeled on your QAS report), either by using the table below or by printing your online score report at www.collegeboard.com/mysat. This can help you understand your academic strengths and identify areas for improvement.

Section	Type of Question	Number Correct	Number Incorrect	Number Omitted
Critical Reading	C Sentence completion			
	R Passage-based reading			
Mathematics	N Number and operations			
	A Algebra and functions			
	G Geometry and measurement			
	D Data analysis, statistics, and probability			
Writing Multiple-Choice	S Improving sentences			
	E Identifying sentence errors			
	P Improving paragraphs			

Reviewing Your Essay

View a copy of your essay online at www.collegeboard.com/viewessay. On the practice sheets in the back of this booklet, you can try writing your essay again or practice writing an essay for one of the other prompts in this booklet.

Scoring Your Test

Use the Scoring Worksheet, SAT Essay Scoring Guide, and score conversion tables at the back of this booklet to try scoring your test. Use the “Form Code” shown at the top of your personalized QAS report to locate your particular score conversion tables. The Scoring Worksheet and score conversion tables are specific to the test you took. Do not try to score any other tests using them.

Preparing to Take the SAT Again

Taking the SAT again might be to your advantage. Now that you’re familiar with the test, you’re more prepared for the kinds of questions on it. You’re also more comfortable with the test-taking process, including the time limits. On average, students who take the SAT a second time increase their combined critical reading, mathematics, and writing scores by approximately 40 points.

The best way to prepare for the SAT is to take challenging high school classes, read extensively, and practice writing as often as possible. For practice questions and approaches and other **free** information about the SAT, visit SAT Skills Insight™ at www.collegeboard.com/satskillsinsight. It provides you with the types of skills that are tested on the SAT, suggestions for improvement, and sample SAT questions and answers to help you do better in the classroom, on the test and in college. Then, when you are ready, you can register to take the SAT again at www.collegeboard.com/mysat.



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 test scores may be canceled.**

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.

We are frequently told that compromise is the best way for people to work out their differences. When people compromise, with each side losing a little in order to reach a satisfactory agreement, both sides can continue to live in harmony. However, compromise can work only when the issues at stake are not that important. Compromise does not work when there is a genuine difference of opinion about strongly held principles or ideas.

Assignment: Is compromise always the best way to resolve a conflict? 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.
Do not turn to any other section in the test.**



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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 usually assume that the quality of a decision is directly related to the time and effort that went into making it. We believe that we are always better off gathering as much information as possible and then spending as much time as possible analyzing that information. But there are times when making a quick judgment is the best thing to do. Decisions made quickly can be as good as decisions made slowly and cautiously.

Adapted from Malcolm Gladwell, *Blink: The Power of Thinking Without Thinking*

Assignment: Are decisions made quickly just as good as decisions made slowly and carefully? 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.
Do not turn to any other section in the test.



ESSAY

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ESSAY



ESSAY

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- **An off-topic essay will receive a score of zero.**
- **If your essay does not reflect your original and individual work, your test scores may be canceled.**

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.

It is unrealistic to think that any group of people—a family, a committee, a company, a city—can function peacefully and productively without some kind of authority. The needs and interests of the individuals who make up any group are too varied for its members to operate as a unit without having someone to make the final decisions. Somebody has to be in charge; somebody has to be ultimately responsible.

Assignment: Can a group of people function effectively without someone being in charge? 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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- **An off-topic essay will receive a score of zero.**
- **If your essay does not reflect your original and individual work, your test scores may be canceled.**

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.

Governments, businesses, groups, or people reveal themselves by how they act, not by what they say. A company may claim to value its customers, or a politician may claim to be committed to a cause, but what do their actions say? People or groups may state what they *wish* were true or what they think others want to hear, but it is their actions that reveal their true values.

Assignment: Do actions, not words, reveal a person or group's true attitudes and intentions? 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.
Do not turn to any other section in the test.**

**SECTION 2****Time — 25 minutes****24 Questions****Turn to Section 2 (page 4) 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. That Carl Stokes, former mayor of Cleveland, was truly ----- is evident from the significant impact he had in many different arenas.
(A) humble (B) casual (C) influential
(D) reflective (E) aloof
2. Though the work of celebrated artist Eugene Delacroix ----- accolades from both art critics and the public, he remains -----, someone shrouded in mystery.
(A) distributed . . a paradox
(B) garnered . . an enigma
(C) excluded . . a revelation
(D) received . . a dilemma
(E) assumed . . an apparition

3. Gwendolyn Brooks was ----- writer: she wrote more than twenty books of poetry as well as numerous essays and reviews.
(A) an eloquent (B) an idiosyncratic
(C) a prolific (D) a reluctant
(E) a subversive
4. His book on the history of science is admittedly conventional, perhaps even -----; nevertheless, it is ----- work that covers a formidable amount of ground.
(A) anachronistic . . a superficial
(B) inscrutable . . an exhaustive
(C) vacuous . . a contentious
(D) audacious . . a limited
(E) pedestrian . . an edifying
5. The executive was faulted for acting -----, for implementing sweeping changes without fully considering what the consequences might be.
(A) incompatibly (B) remorsefully
(C) disingenuously (D) precipitately
(E) belligerently



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 6-10 are based on the following passages.

Passage 1

Every age, after his own, has gone in search of Shakespeare. The first biography was written in 1709. Now it is a poor year for the Shakespeare business when two or three more do not show up on bookstore shelves. We want to know who he was, hoping that the narrative of his life will somehow explain the genius of his writing. But it never does. We find him, but who we find only adds to the mystery. How is it that a man without a university education, a glover's son from a small Warwickshire market town, could have written the plays and poems that have spoken to generations of readers and theatergoers?

Passage 2

Stratford, Shakespeare's hometown, has become an almost sacred place of pilgrimage, with tourists waddling reverently around the spectacularly tasteless cathedral of the Shakespeare Memorial Theatre. An impressionable few of them are even moved to doff their caps or discard their ice creams. Shakespeare's familiar high-domed head, an image that is quite possibly not him at all, has adorned everything from TV beer commercials to British currency. He is the presiding genius of the national spirit, a kind of hero in a neck ruff. Without him, industries would crash and ideologies crumble. It is even rumored that he also wrote plays.

6. The author of Passage 1 would likely claim that Stratford's having become "an almost sacred place of pilgrimage" (lines 12-13, Passage 2) is
- (A) inappropriate given Shakespeare's humble beginnings
 - (B) at odds with Shakespeare's current status among literary scholars
 - (C) unsurprising given the intense curiosity Shakespeare inspires
 - (D) unusual in an age that commercializes Shakespeare
 - (E) puzzling considering how small the town of Stratford is

7. Compared with the tone of Passage 1, the tone of Passage 2 is more

- (A) optimistic
- (B) appreciative
- (C) impartial
- (D) uncertain
- (E) irreverent

8. In line 17, "familiar" most nearly means

- (A) sociable
- (B) presumptuous
- (C) ordinary
- (D) closely acquainted
- (E) easily recognized

9. The final sentence in Passage 2 is best interpreted as

- (A) a self-deprecating acknowledgment that the author is not an expert on Shakespeare
- (B) a factual observation about the extent of the public's knowledge of literature
- (C) a humorous admission that a great deal remains unknown about Shakespeare's life
- (D) a derisive comment about the public's lack of real engagement with Shakespeare's work
- (E) a snide commentary on the public's willingness to believe rumors

10. Both passages support the point that

- (A) many of the generally accepted details about Shakespeare's life are probably inaccurate
- (B) Shakespeare was a genius of the highest magnitude
- (C) few people today actually read Shakespeare's work
- (D) very little is known about certain periods of Shakespeare's life
- (E) a thriving industry is dependent on Shakespeare's life and work



Questions 11-16 are based on the following passage.

This passage is adapted from a contemporary book about jewelry.

In the wake of the Industrial Revolution, when mass production became the pride and joy of nineteenth-century entrepreneurs, a fast-growing middle class reveled in the luxury of consumer goods, including jewelry, made available at economical prices. Prosperous segments of the population wanted to demonstrate their affluence, a development that provided a powerful stimulus to the jewelry industry in both Europe and the United States.

In this avalanche of mass production, many artists and artisans of the Arts and Crafts movement felt that the human touch, respect for materials, and the satisfaction of a fine finish were being lost. Jewelry, like other articles, was becoming impersonal, carelessly constructed, unimaginatively designed. Though labeled romantic and idealistic, some artists sought to produce individually conceived and executed pieces in workshop situations similar to those of medieval guilds. They wanted to produce handmade jewelry from less-expensive materials for the general public, yet with the same care and commitment a court jeweler might apply to work for aristocratic clientele. In medieval times there had been artisans in towns and villages, working for ordinary people on a one-to-one basis; the adherents of the movement felt there was an urgency to return to this special relationship. It was considered particularly important that artists be involved to ensure the production of more meaningful objects, whether they be pottery, furniture, or, especially, jewelry.

At the same time, the Art Nouveau style was inspiring artists and artisans all over Europe, across the Atlantic and back again. Its flowing lines and graceful forms, drawing nature in its perfection and portraying idealized images, pervaded all areas of design, from fabrics and furniture to cutlery, as well as painting and sculpture. Born out of a direct opposition to unbridled mass production, Art Nouveau was intended to bring aesthetic values within the reach of the public and into functional areas. Perhaps it was in jewelry that Art Nouveau reached its pinnacle. Here the style represented a reaction against the imitation of styles from earlier periods and the emphasis given to precious stones. The material used in jewelry was prized for its decorative and symbolic effects, not for its intrinsic value. Rejecting the cluttered overornamentation of the past, artists influenced by Art Nouveau sought to draw popular interest away from machine-made products by incorporating more delicate and fluid natural forms—peacock feathers, flower stalks, vine tendrils, even insect wings.

The ideals of the Arts and Crafts movement were in complete sympathy with the concepts of Art Nouveau, and artists

and artisans implemented them in practical ways by forming small groups, guilds, and workshops in Britain, Germany, and Austria. Yet in spite of all efforts, the Arts and Crafts movement could not survive its lack of wide commercial appeal. Because the movement relied on an unaggressive and “uncommercial” approach to business, it never caught on with the people for whom its products were intended. Still, the movement produced far-reaching repercussions long after its untimely death. Its international associations, its ideals of artists’ involvement with the crafts, of the integrity of artists and artisans, and of social awareness were to inspire entire generations to come.

11. According to the passage, mass-produced jewelry and that produced by followers of the Arts and Crafts movement were alike in that both
 - (A) could be made quickly on a large-scale basis
 - (B) could be custom-designed for a particular individual
 - (C) were intended to be affordable
 - (D) were as well crafted as the jewelry of the wealthy
 - (E) were carefully marketed products
12. For adherents of the Arts and Crafts movement, the guild concept represented
 - (A) a vulgar distortion of artistic principles
 - (B) a regressive throwback to medieval times
 - (C) a practical means to realize their ideals
 - (D) a symbol of the privilege that only royalty could enjoy
 - (E) an innovative approach to manufacturing luxury items on a wide scale
13. In lines 28-46, the author indicates that the designs of Art Nouveau objects were inspired by
 - (A) natural images
 - (B) mythical figures
 - (C) abstract ideas
 - (D) functional objects
 - (E) elaborate devices
14. Lines 40-42 (“The material . . . value”) indicate that the materials that were most highly prized for Art Nouveau jewelry were those that
 - (A) were the most convenient to obtain
 - (B) were both fashionable and precious
 - (C) had been treasured over the centuries
 - (D) could be mass-produced economically
 - (E) were beautiful and meaningful



15. Lines 53-55 ("Because . . . intended") primarily indicate that

- (A) artists of the day yielded too easily to profit-making motives
- (B) Arts and Crafts artists did not effectively market their products
- (C) the Arts and Crafts movement was compromised by the Industrial Revolution
- (D) the wealthy were not open to experimenting with innovative designs in jewelry
- (E) an increasingly cultured middle class weakened the influence of the Arts and Crafts movement

16. The passage implies that what the Arts and Crafts movement and Art Nouveau had in common was their

- (A) purpose of instructing people how to craft their own jewelry
- (B) purpose of producing alternatives to mass-produced goods
- (C) desire to attract patrons who would fund their projects
- (D) plan to produce accessories to match people's wardrobes
- (E) hope of producing jewelry that replicated classical designs



Questions 17-24 are based on the following passage.

In this passage adapted from a novel, a Canadian woman recalls her childhood during the 1960s. Originally from China, the family traveled to Irvine, Ontario, Canada, where the parents opened a restaurant, the Dragon Café.

As a young child I never really thought about my parents' lives in Irvine, how small their world must have seemed, never extending beyond the Dragon Café. Every day my parents did the same jobs in the restaurant. I watched the same customers come for meals, for morning coffee, for afternoon soft drinks and French fries. For my parents one day was like the next. They settled into an uneasy and distant relationship with each other. Their love, their tenderness, they gave to me.

But my life was changing. I became taller and bigger, my second teeth grew in white and straight. At school I began to learn about my adopted country. I spoke English like a native, without a trace of an accent. I played, thought, and dreamed in the language of our Irvine neighbors. A few years later and I would no longer remember a time when I didn't speak their words and read their books. But my father and Uncle Yat still spoke the same halting English. My mother spoke only a few words. I began to translate conversations they had with the customers, switching between English and Chinese. Whenever I stepped outside the restaurant it seemed I was entering a world unknown to my family: school, church, friends' houses, the town beyond Main Street. I found it hard to imagine a year without winter any more, a home other than Irvine.

For my mother, though, home would always be China. In Irvine she lived among strangers, unable to speak their language. Whenever she talked about happy times, they were during her childhood in that distant land. A wistful smile would soften her face as she told me about sleeping and playing with her sister in the attic above her parents' bedroom. She once showed me a piece of jade-green silk cloth that was frayed and worn around the edge. In the center was a white lotus floating in varying shades of blue water, the embroidery so fine that when I held it at arm's length the petals looked real. I had been helping her store away my summer clothes in the brown leather suitcase from Hong Kong when I noticed a piece of shiny material in the corner and asked her what it was. She took it out and spread it on her lap. "My mother embroidered this herself. I was going to have it made into a cushion, but then my life changed and over here there seems to be no place for lovely things. It's all I have that reminds me of her," she said. "Maybe, Su-Jen, one day you will do something with it." I admired the cloth some more, then she carefully folded it and stored it back in her suitcase.

There was so little left from her old life. She said it was so long ago that sometimes it felt as if it had never

happened. But she described her life with such clarity and vividness that I knew all those memories lived on inside her. There was so little in this new country that gave her pleasure. The good things she found were related in some way to China: an aria from a Chinese opera, a letter from a relative back home or from Aunt Hai-Lan in Toronto, written in Chinese, a familiar-looking script that I couldn't read and that had nothing to do with my life in Canada.

There were times when I felt guilty about my own happiness in Irvine. We had come to Canada because of me, but I was the only one who had found a home.

17. In the opening paragraph, the narrator emphasizes primarily which of the following about her parents?

- (A) Their work ethic
- (B) Their evolving relationship
- (C) Their routine lives
- (D) Their resourcefulness
- (E) Their dependability

18. The sentence in line 10 ("But . . . changing") serves primarily to

- (A) lament a situation
- (B) introduce a contrast
- (C) challenge a claim
- (D) emphasize a desire
- (E) reiterate a point

19. The primary purpose of the second paragraph (lines 10-24) is to

- (A) provide insight into the motivations of the narrator's parents and uncle
- (B) recapture the pleasure the narrator experienced in learning a new language
- (C) emphasize the extent of the transformation the narrator undergoes
- (D) describe the complex interrelationships in the narrator's family
- (E) reveal the narrator's preference for a cold climate over a warm one



20. The sentence in line 25 ("For . . . China") serves to
- (A) introduce a key idea developed later in the passage
 - (B) initiate a brief digression from the story line
 - (C) illustrate a generalization made in the previous paragraph
 - (D) point to a situation analogous to one experienced by the narrator
 - (E) foreshadow an unexpected incident
21. Lines 25-27 ("For my . . . language") suggest primarily that in her new country the mother experienced feelings of
- (A) dread
 - (B) confusion
 - (C) intrigue
 - (D) isolation
 - (E) irritation
22. In lines 46-50 ("There was . . . inside her"), the mother's memories of China are portrayed as
- (A) distant yet enduring
 - (B) occasional yet overwhelming
 - (C) lively but confused
 - (D) joyous and hopeful
 - (E) wistful and indistinct
23. The items mentioned in lines 52-55 had meaning for the mother because they
- (A) introduced her to a world rich in culture
 - (B) supplied her with familiar associations
 - (C) were the few remaining keepsakes from her life in China
 - (D) helped connect the narrator and her mother
 - (E) provided relief from the monotony of her work routine
24. Which of the following best characterizes the narrator's development over the course of the passage?
- (A) She grows apart from the cultural tradition of her parents.
 - (B) She overcomes the guilt she felt about her newfound happiness.
 - (C) She begins to view the inhabitants of Irvine from her mother's perspective.
 - (D) She becomes less and less interested in her mother's stories.
 - (E) She communicates less and less with her parents.

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 4

Time — 25 minutes

20 Questions

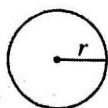
Turn to Section 4 (page 5) of your answer sheet to answer the questions in this section.

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

Notes

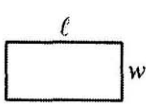
1. The use of a calculator is permitted.
2. All numbers used are real numbers.
3. Figures that accompany problems in this test are intended to provide information useful in solving the problems. They are drawn as accurately as possible EXCEPT when it is stated in a specific problem that the figure is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

Reference Information

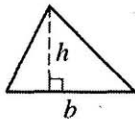


$$A = \pi r^2$$

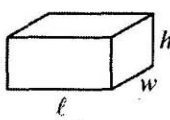
$$C = 2\pi r$$



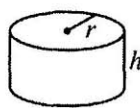
$$A = \ell w$$



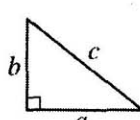
$$A = \frac{1}{2}bh$$



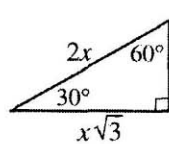
$$V = \ell wh$$



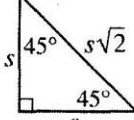
$$V = \pi r^2 h$$



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

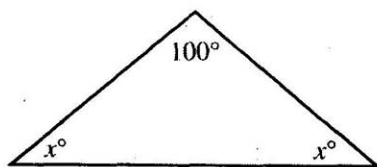


Special Right Triangles



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

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



1. In the triangle above, what is the value of x ?

- (A) 40
(B) 45
(C) 50
(D) 55
(E) 60

2. If 5.16 is rounded to the nearest tenth and the result is doubled, what is the final result?

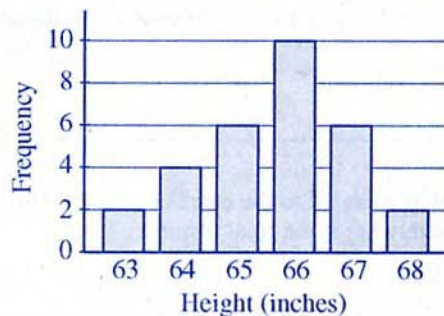
- (A) 10.4
(B) 10.3
(C) 10.2
(D) 10.1
(E) 10.0

GO ON TO THE NEXT PAGE



3. Aisha, Bonita, and Carlotta are each wearing a hat colored red or green. Each girl can see the hats on the other two girls' heads but cannot see the one on her own. Bonita sees one red hat and one green hat, and Carlotta sees two red hats. Which of the following is true?

- (A) Aisha's hat is green.
 (B) Bonita's hat is green.
 (C) Aisha and Bonita both have hats of the same color.
 (D) Aisha and Carlotta both have hats of the same color.
 (E) Bonita and Carlotta both have hats of the same color.



4. The graph above shows the heights, rounded to the nearest inch, of a group of women. How many women are in the group?

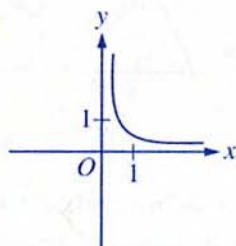
- (A) 6
 (B) 10
 (C) 22
 (D) 30
 (E) 34

5. If 3 more than x is 2 less than 9, what is the value of x ?

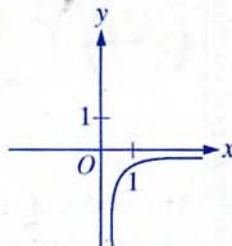
- (A) 3
 (B) 4
 (C) 7
 (D) 8
 (E) 10

6. Which of the following graphs has the property that the x -coordinate is less than the y -coordinate for each point on the graph?

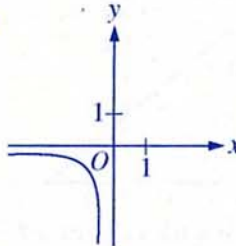
(A)



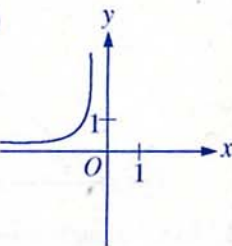
(B)



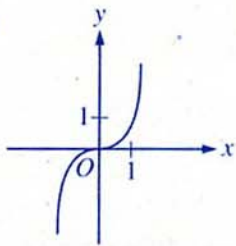
(C)



(D)



(E)



7. For expected high temperatures between 70°F and 100°F , the number of people on a beach on a given day is modeled by $4(x - 70)(100 - x)$, where $x^{\circ}\text{F}$ is the expected high temperature for that day. The expected high temperatures for Monday and Tuesday are 80°F and 85°F , respectively. According to this model, how many more people will be on the beach on Tuesday than on Monday?

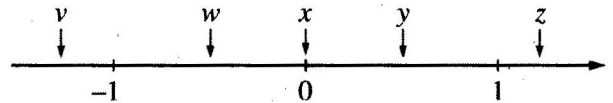
(A) 5
(B) 100
(C) 800
(D) 900
(E) 24,700

8. The measures of the three angles of a triangle are $8w^{\circ}$, $3w^{\circ}$, and w° . The measure of the largest angle of the triangle is how much greater than the measure of the next largest angle?

(A) 15°
(B) 45°
(C) 75°
(D) 85°
(E) 105°

9. If 4 bags of flour with an average (arithmetic mean) weight of 15 pounds are put onto a shelf with 4 5-pound bags of flour, what is the average weight, in pounds, of all 8 bags on the shelf?

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



10. The numbers v , w , x , y , and z are indicated on the number line above. Of the following, which quantity has the least value?

(A) v
(B) vw
(C) vx
(D) vy
(E) vz



11. If $x - 5 = t$, then x is 1 more than which of the following?

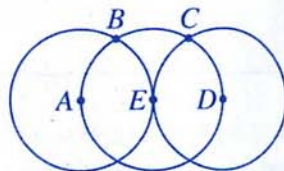
(A) $t + 4$
(B) $t + 5$
(C) $t + 6$
(D) $t + 7$
(E) $t + 8$

12. A certain ice-cream parlor offers 6 different toppings for sundaes. How many combinations of 2 different toppings from those offered are possible?

(A) 6
(B) 12
(C) 15
(D) 36
(E) 64

13. Which of the following is an equation of the line in the xy -plane that passes through the point $(0, -3)$ and is perpendicular to the line $y = -4x + 2$?

(A) $y = -4x + 3$
(B) $y = 4x + 6$
(C) $y = -\frac{1}{4}x + 2$
(D) $y = \frac{1}{4}x - 3$
(E) $y = \frac{1}{4}x + 3$



14. In the figure above, three circles, each with radius 4, have centers A , E , and D , respectively. Two circles are tangent at E , and circles intersect at B and C , as shown. What is the perimeter of quadrilateral $ABCD$ (not shown)?

(A) 16
(B) 20
(C) 24
(D) $16 + 2\sqrt{3}$
(E) $16 + 4\sqrt{2}$



15. If one of the positive factors of 40 is to be chosen at random, what is the probability that the chosen factor will not be a multiple of 10?

(A) $\frac{3}{7}$
(B) $\frac{5}{7}$
(C) $\frac{3}{8}$
(D) $\frac{5}{8}$
(E) $\frac{7}{8}$

17. The length of each side of an equilateral triangle will be tripled to create a second triangle. The area of the second triangle will be how many times the area of the original triangle?

(A) 3
(B) 6
(C) 9
(D) 12
(E) 27

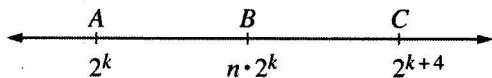
16. For all numbers x , let the function f be defined as $f(x) = 2x + 4$. Which of the following is equal to $f(4) + f(3)$?

(A) $f(7)$
(B) $f(9)$
(C) $f(12)$
(D) $f(16)$
(E) $f(22)$

$$\frac{2}{x} > 3$$

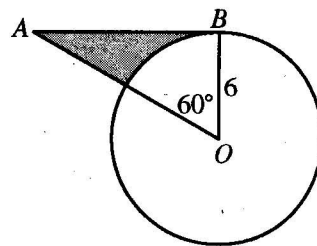
18. In which of the following intervals does every value of x satisfy the inequality above?

(A) $-1 < x < -\frac{1}{2}$
(B) $-\frac{1}{2} < x < -\frac{1}{4}$
(C) $\frac{1}{4} < x < \frac{1}{2}$
(D) $\frac{1}{2} < x < \frac{3}{4}$
(E) $\frac{3}{4} < x < 1$



19. On the number line above, point B is the midpoint of \overline{AC} . If k is positive, what is the value of n ?

- (A) 4
(B) 8
(C) 17
(D) $\frac{5}{2}$
(E) $\frac{17}{2}$

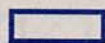


20. In the figure above, the center of the circle is O and \overline{AB} is tangent to the circle at point B . What is the area of the shaded region?

- (A) $9\sqrt{3} - 6\pi$
(B) $9\sqrt{3} - 12\pi$
(C) $18\sqrt{3} - 6\pi$
(D) $18\sqrt{3} - 12\pi$
(E) $36\sqrt{3} - 12\pi$

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

35 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.

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. Controversy over books and films used in schools has caused school boards to consider should they get involved in selection procedures for such materials.

- (A) should they get involved
(B) should their involvement be
(C) whether they should get involved
(D) whether it gets involved
(E) if it involves itself

2. Meredith would like to attend, but the training course is not able to be afforded by her.

- (A) Meredith would like to attend, but the training course is not able to be afforded by her.
(B) Meredith would like to attend the training course, but she cannot afford it.
(C) Meredith would like to attend the training course, but it is not affordable to her.
(D) What Meredith would like to do is to attend the training course, but it is not affordable to her.
(E) If it were to be affordable, Meredith would like to attend the training course.

3. Chad wore his hat just as his favorite old movie stars did when perched on the back of his head.

- (A) Chad wore his hat just as his favorite old movie stars did when perched on the back of his head.
(B) Chad wore his hat perched on the back of his head, just as his favorite old movie stars did.
(C) Chad's favorite old movie stars wore their hat perched on the back of their heads, Chad did too.
(D) Perched on the back of his head, Chad wore his hat just as his favorite old movie stars did.
(E) Just as his favorite old movie stars did, perching their hats on the backs of their head, as did Chad.

4. Established by African Americans during the Reconstruction period, the town of Nicodemus, Kansas, is now a national historic site, which is where visitors can learn about the role of African Americans in westward expansion.

- (A) site, which is where visitors
(B) site, visitors there
(C) site to which visitors
(D) site which visitors there
(E) site where visitors

5. If there had been a power failure, the hospital will run on electricity from its own generators, which can operate for 200 hours.
 - (A) If there had been
 - (B) If there were
 - (C) Had there been
 - (D) Should there be
 - (E) There has been

6. Reactions to the Grand Canyon ranges from astonishment at its size to solemn appreciation of its natural beauty.
 - (A) ranges from
 - (B) ranges between
 - (C) ranging from
 - (D) that range between
 - (E) range from

7. *Let Us Now Praise Famous Men* revolutionized the art of documentary photography, it depicts the American South during the Great Depression.
 - (A) *Men* revolutionized the art of documentary photography, it depicts the American South during the Great Depression
 - (B) *Men*, depicting the American South during the Great Depression, it revolutionized the art of documentary photography
 - (C) *Men*, which revolutionized the art of documentary photography, depicting the American South during the Great Depression
 - (D) *Men* revolutionized the art of documentary photography with its depiction of the American South during the Great Depression
 - (E) *Men*, which depicts the American South during the Great Depression, revolutionizing the art of documentary photography

8. A soft lullaby and the drumroll of thunder during a summer storm are but two of the diverse sounds that can be perceived by the human ear.
 - (A) that can be perceived by the human ear
 - (B) that is perceived by the human ear
 - (C) that the human ear, it can perceive
 - (D) in which the human ear can perceive
 - (E) that they can perceive with the human ear

9. Concerned about possible damage to the atmosphere's ozone layer, laws in many countries now prohibit the use of fluorocarbons as propellants in aerosol cans.
 - (A) Concerned about possible damage to
 - (B) Concerned about possibly damaging
 - (C) There is concern about possible damage to
 - (D) Because of concern about possible damage to
 - (E) People are concerned about possible damage to

10. One scholar suggests that the Neanderthals inhabiting Europe during the last ice age would have faced challenges no tougher than the Inuit people living in the Arctic today.
 - (A) challenges no tougher than
 - (B) challenges that were no tougher than
 - (C) challenges no tougher than those faced by
 - (D) no tougher challenges than facing
 - (E) no challenges tougher than

11. In 1871 Joseph Lister noticed when fruit and cheese is spoiled, that a mold grows on them that can be used to weaken germs.
 - (A) when fruit and cheese is spoiled, that a mold grows on them that
 - (B) when fruit and cheese spoil, there is a mold on it that
 - (C) that a mold that grows on spoiled fruit and cheese
 - (D) that spoiled fruit and cheese have a mold that grew on them, and it
 - (E) that spoiled fruit and cheese grow a mold on them, and they

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) (B) (C) (D) (E)

12. In 1980 a scholar who was examining a fifteenth-
 A
 century letter-writing manual discovering
 B
fragments from love letters exchanged between a
 C D
 famous twelfth-century couple, Abelard and Heloise.
- No error
 E

13. Like many people, Luanne believes that parents can
 A
 foster musical ability in small children out of playing
 B C
 classical music for them while they are infants.
 D
- No error
 E

14. Before she wrote the famous account of her

experiences as a Buddhist nun traveling across
 A B

Japan, Lady Nijo has lived at the court of the
 C

Japanese Emperor for over twenty years. No error
 D E

15. Last summer Tyreesha and two of her classmates

worked as a lifeguard at a camp for musically
 A B C D

talented children. No error
 E

16. Had it not been for two particularly skillful members
 A B

of the work crew, we could not have completed the
 C

apartment renovations on schedule. No error
 D E

17. Angrily and a bit confused, the defense witness
 A

found it difficult to respond coherently to the
 B C D

district attorney's aggressive cross-examination.

No error
 E



18. Because she is so busy with her classes and her library
A
job, Shonda always carries a homework assignment
B
in her bag so that she can complete them on the
C D
subway. No error
E

19. Brazil is not only the most populous of the twelve
A
South American countries but also the largest
B C
in area. No error
D E

20. A recent study of animal language offers provocative
A
theories about the origins of such complex behaviors
B
as the colorfully and noisy signals animals use to
C D
communicate. No error
E

21. The development of telescopes of greater power and
resolution has given astronomers hope that glimpses
A
of distant solar system bodies even smaller than
B
Pluto will soon be possible. No error
C D E

22. It would be much more efficient for you and I to
A B
work together on both projects than for each of us
C D
to work separately on one. No error
E

23. Above the beautiful white-sand beach runs
A
two rivers that eventually combine to form
B C
a waterfall cascading to the sand. No error
D E

24. Linking the sides of the gorge was a suspension
A
bridge built a hundred years earlier by local farmers
B C
seeking to expedite travel between their fields to the
D
marketplace. No error
E

25. To stand in Persepolis in modern Iran and look out,
A
as Darius the First must have done, at the immense
B
sweep of fields and mountains is to grasp the vastness
C D
of the ancient Persian Empire. No error
E



31. In context, which of the following would be the best way to combine sentence 6 and sentence 7 (reproduced below) ?

Often my instincts about people and situations are right. But one thing I have observed in reading old journal entries is that I sometimes distrust my instincts about people and situations.

- (A) Often my instincts about people and situations are right, and one thing I have observed in reading old journal entries is that I sometimes distrust them.
- (B) Even when our instincts about people and situations are right, one thing we observe in reading old journal entries is that we sometimes distrust those instincts.
- (C) One thing I have observed in reading old journal entries is that I sometimes distrust my instincts about people and situations even though my instincts are often right.
- (D) One thing they observe is that in reading old journal entries they sometimes distrust their instincts about people and situations even though their instincts are often right.
- (E) On the other hand, one thing I observe in reading old journal entries is that I sometimes distrust my instincts about people and situations that are often right.

32. In context, which is the best revision of the underlined portion of sentence 8 (reproduced below) ?

I have become friends with two people who were fun to be around, but some part of me sensed that they were not trustworthy.

- (A) For example, I became
- (B) Since that time I have become
- (C) Specifically, I have become
- (D) In fact, I was also
- (E) It is interesting to note that I will be

33. In context, which of the following is the best version of sentence 9 (reproduced below) ?

But then I would tell myself not to be suspicious of people, so I set my doubts aside.

- (A) (As it is)
- (B) But I should have told myself not to be suspicious of people and set aside my doubts.
- (C) I will, however, set my doubts aside and tell myself not to be suspicious of people.
- (D) I set my doubts aside, however, telling myself not to be suspicious of people.
- (E) In addition, I set my doubts aside and would tell myself not to be suspicious of people.

34. In context, which is the best version of sentence 10 (reproduced below) ?

Later, in both cases, I find out those friends are self-centered and unreliable.

- (A) Who would have known that they would turn out to be self-centered and unreliable?
- (B) How could I tell if the two are self-centered and unreliable?
- (C) Later I found out that both of these friends were self-centered and unreliable, as I had initially thought.
- (D) They might turn out to be self-centered and unreliable.
- (E) Both of them, I will discover, are self-centered and unreliable.

35. In context, which of the following sentences is best to insert between sentence 12 and sentence 13 ?

- (A) The job paid better than the other jobs for which I had applied that summer.
- (B) My classmate and I disagreed about other subjects besides that job.
- (C) A friend's advice about such things should be based on solid information, not vague impressions.
- (D) Sometimes first impressions turn out to be accurate.
- (E) At first I was inclined to give her evaluation more weight than my own.

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

24 Questions

Turn to Section 6 (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) ☒

- The discoveries made by Nobel Prize-winning geneticist Barbara McClintock are considered to be among the major ----- of twentieth-century biological science.
(A) deliberations (B) regulations
(C) suggestions (D) accomplishments
(E) defenses
- In the United States, social activists who strongly ----- a particular law can attempt to obtain a constitutional amendment to ----- it.
(A) concur with . . rescind
(B) object to . . repeal
(C) disagree about . . support
(D) identify with . . nullify
(E) interact with . . ignore
- Because Alex was a very ----- person, he found satisfaction only in work that involved intellectual stimulation.
(A) peripheral (B) cerebral (C) facetious
(D) complacent (E) superficial
- Readers of history often marvel that ----- events were triggered by actions that seemed ----- at the time.
(A) marginal . . unconscionable
(B) arbitrary . . capricious
(C) momentous . . trivial
(D) revolutionary . . cataclysmic
(E) inconsequential . . inane
- Place-names can be strikingly -----: there is, for example, nothing particularly ----- about the town of Peculiar, Missouri.
(A) expedient . . eccentric
(B) descriptive . . controversial
(C) inimitable . . incongruous
(D) comical . . ludicrous
(E) inapt . . odd
- Such was Norton's generosity that he was at times criticized for being ----- to a fault.
(A) nonchalant (B) magnanimous
(C) scrupulous (D) discerning
(E) substantial
- Identifying Luisa Capetillo only with the early labor union movement in Puerto Rico ----- the ----- nature of her career: she also worked in Florida, New York, and Cuba.
(A) impugns . . contentious
(B) condones . . innovative
(C) disregards . . cosmopolitan
(D) accentuates . . comprehensive
(E) overlooks . . pragmatic
- The singer displays her sensitivity to delicate shades of meaning and feeling in the recording: her performance is a model of -----.
(A) expansiveness (B) denotation (C) nuance
(D) parody (E) artifice



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 9-10 are based on the following passage.

A century ago, opponents of women's suffrage in the United States scoffed at the notion that extending the vote to women would make any difference. "Women will vote with their husbands" was the commonly accepted wisdom. This was an argument made in the absence of evidence, as women did not yet have the vote. Ever since women won the vote, researchers have been keeping close track of female voting behavior. A "gender gap" in voting behavior has been found in the United States as in many other countries. In the United States, the 1994 and 1996 elections showed the largest gaps ever between candidates favored by women and those favored by men.

9. The primary purpose of the passage is to
- (A) describe the evolution of a gender gap in the United States
 - (B) present a concise history of the women's suffrage movement
 - (C) show the inaccuracy of a prediction about women's suffrage
 - (D) discuss the resistance women faced in acquiring the vote
 - (E) explain the differences in voting behavior between men and women
10. As the passage presents it, the "commonly accepted wisdom" (line 4) assumed that
- (A) women would have the same views as men on most subjects
 - (B) women's votes would be cancelled out by men's votes
 - (C) many women would choose not to vote in elections
 - (D) many husbands would discourage their wives from voting
 - (E) married women would not vote independently of their husbands

Questions 11-12 are based on the following passage.

For people with synesthesia, a condition in which the senses get mixed up, the number five may be red. One explanation for this sensory crossover is that synesthetes, people with synesthesia, are simply experiencing childhood memories and associations. Maybe the person played with refrigerator magnets as a child and the number five was red. Another explanation is that synesthetes are experiencing the result of some kind of cross wiring between regions of the brain. In fact, we have now identified where in the brain such cross wiring might occur. We have also determined that synesthesia can occur if the wiring is fine but the balance of chemicals that control brain activity is skewed.

11. The primary purpose of the passage is to
- (A) explore possible explanations for a phenomenon
 - (B) compare two somewhat related phenomena
 - (C) present a theory for a phenomenon and then critique that theory
 - (D) trace the evolution of an intriguing phenomenon
 - (E) discuss an experiment that illustrates an uncommon phenomenon
12. In line 12, "fine" most nearly means
- (A) pure
 - (B) keen
 - (C) thin
 - (D) sensitive
 - (E) satisfactory



Questions 13-24 are based on the following passage.

The following passage is from a 1992 publication in which the author, a physicist, discusses “reality” and the models that human beings use to understand the universe.

Perhaps you’ve seen the painting: a pipe, depicted with photographic realism, floats above a line of careful script that reads “Ceci n’est pas une pipe”—“This is not a pipe.” René Magritte painted *The Treachery of Images* in the 1920s, and people have been talking ever since about what it means.

Did Magritte intend to remind us that a representation is not the object it depicts—that his painting is “only” a painting and not a pipe? Such an interpretation is widely taught to college students, but if it is true, Magritte went to an awful lot of trouble—carefully selecting a dress-finish pipe of particularly elegant design, making dozens of sketches of it, taking it apart to familiarize himself with its anatomy, then painting its portrait with great care and skill—just to tell us something we already knew. In another canvas, *The Two Mysteries*, Magritte is even more insistent: the original pipe painting, complete with caption, is depicted as sitting on an easel that rests on a plank floor, but above that painting, to the left, hovers a second pipe, larger (or closer) than the painted canvas and its frame. What we have here is a painting of a paradox. Obviously the smaller pipe is a painting and not a pipe. But what is the second pipe, the one that looms outside the represented canvas? And if that too is but a painting, then where does the painting end?

It seems to me that the roots of the paradox reside in the concept of the frame. When we look at a realistic painting—a portrait of a historical figure—we accept by convention that the portrait represents a real person and actual objects. When that convention is denied, as in Magritte’s pipe paintings, the point is *not* to remind us that paintings are not real. That much is true but trivial. The point is to challenge the belief that everything outside the frame is real.

The enemy of artists like Magritte is naïve realism—the dogged assumption that the human sensory apparatus accurately records the one and only real world, of which the human brain can make but one accurate model. The truth, of course, is that nobody can grasp reality whole, that each person’s universe is to some extent unique, and that this circumstance makes it impossible for us to prove that there is but one true reality.

If modern artists have labored to call attention to the fact that our understanding of reality is limited and variegated, so too have modern scientists. Many people are surprised to hear this. They think of science as a collection of hard

facts mined from bedrock reality, through a process as uncreative as coin collecting. The scientists, however, have come to know better. Astronomers understand that each act of observation—photographing a galaxy, taking an ultraviolet spectrum of an exploding star—extracts but a small piece of the whole, and that a montage of many such images is still only a representation, a painting if you will. The quantum physicists go further: they appreciate that the answers they obtain through experiment depend significantly on the questions they ask, so that an electron, asked if it is a particle or a wave, will answer “Yes” to both questions. Neuroscientists have learned that the brain is no monolith, either. Each of us harbors many intelligences, and insofar as my various minds take varying views of reality—in terms, say, of spatial relationships *versus* language, or of sentimental *versus* rational education—I can no more legitimately impose a single model on myself than I can expect to impose it on others.

This is not to say that every opinion about the universe deserves equal attention, as if schoolteachers should be enjoined to give equal weight to the flat-Earth theory, ESP, or the existence of extraterrestrials. That no one theory of the universe can deservedly gain permanent predominance does not mean that all theories are equally valid. In fact, to understand the limitations of science (and art and philosophy) can be a source of strength, emboldening us to renew our search for the objectively real even though we understand that the search will never end. I often reflect on a remark made to me one evening over dinner by a famous scientist: “The world is a fantasy, so let’s find out about it.” To me, that heroic statement encapsulates the spirit of science: to seek to learn something while accepting that one will never know everything.

13. In lines 7-16 (“Did . . . knew”), the author implies that college teachers portray Magritte’s intentions in a way that

- (A) values emotionalism over rational argument
- (B) emphasizes creativity and execution of form
- (C) is more scientific than artistic
- (D) is judgmental and dismissive
- (E) is simplistic and debatable



14. The author describes Magritte's activities before he painted the pipe (lines 11-15) most likely in order to
- (A) contrast these activities with Magritte's technique in other paintings
 - (B) defend Magritte's work against claims that his paintings are too abstract
 - (C) suggest that Magritte wanted to demonstrate something more than the obvious
 - (D) illustrate the universal appeal of Magritte's work
 - (E) emphasize the carefree nature of Magritte's artistry
15. The "paradox" mentioned in lines 21 and 26 refers to
- (A) an abstract painter's convincing depiction of a scientific phenomenon
 - (B) an artist's use of photography to challenge the concept of reality
 - (C) Magritte's use of science to convey artistic creativity
 - (D) Magritte's careful representation of an obscure object
 - (E) Magritte's simultaneous portrayal of a real and a created world within a painting
16. The sentence "That much is true but trivial" (line 32) specifically refers to which idea?
- (A) Many modern paintings deny convention.
 - (B) Paintings are open to multiple interpretations.
 - (C) Realistic paintings portray actual objects.
 - (D) A painting of an object is not the object itself.
 - (E) An artist cannot possibly represent an object exactly.
17. What many people consider "hard facts" (lines 46-47) would most likely be viewed by the author as
- (A) necessary
 - (B) solid
 - (C) disturbing
 - (D) tentative
 - (E) difficult
18. The author mentions "coin collecting" (line 48) as an activity that
- (A) is straightforward and relatively unambiguous
 - (B) was once ridiculed for its irrelevance to life
 - (C) entails a high level of attention to detail
 - (D) can provide gratification to those who engage in it
 - (E) exemplifies the spirit of both scientists and artists
19. The "montage" (line 52) is characterized as
- (A) more comprehensive than a single image but less realistic
 - (B) more nearly complete than a single image but still inadequate
 - (C) less realistic than a painting but more accessible
 - (D) less accurate than a single image and more difficult to obtain
 - (E) less comprehensible than a painting and more difficult to achieve
20. In line 54, "appreciate" most nearly means
- (A) enjoy
 - (B) recognize
 - (C) be grateful
 - (D) greatly admire
 - (E) rapidly value
21. The answer to "both questions" (lines 57-58) is significant because it indicates that
- (A) scientists have historically been trained to ask questions that have multiple right answers
 - (B) the nature of electrons is no longer in question
 - (C) scientific conclusions are shaped by the queries posed in experiments
 - (D) scientists, like artists, attempt to depict events realistically
 - (E) scientists need to pursue extensive research before they can come to valid conclusions
22. The claim that "the brain is no monolith" (lines 58-59) most nearly means which of the following?
- (A) Human intelligence is ultimately limited.
 - (B) The brain consists of immense numbers of distinct structures.
 - (C) There are multiple ways in which each of us can perceive the world.
 - (D) The human brain is still baffling to scientists.
 - (E) Representing the human brain accurately will require additional research.

23. The author's list in lines 67-68 ("the flat-Earth . . . extraterrestrials") is meant to

- (A) illustrate a variety of extreme views
- (B) support an alternative teaching method
- (C) affirm the imaginative tendencies of children
- (D) encourage increased open-mindedness
- (E) disparage the concept of individual reality

24. In the last paragraph of the passage, the author implies that education should

- (A) emphasize the legitimacy of all theories
- (B) be limited to what can be proven objectively
- (C) distinguish between scientific and artistic methodology
- (D) promote the importance of having a thorough understanding of many subjects
- (E) instill a desire to learn despite the limitations of knowledge

S T O P

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

SECTION 7

Time — 25 minutes

18 Questions

Turn to Section 7 (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

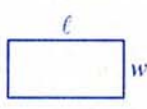
1. The use of a calculator is permitted.
2. All numbers used are real numbers.
3. Figures that accompany problems in this test are intended to provide information useful in solving the problems. They are drawn as accurately as possible EXCEPT when it is stated in a specific problem that the figure is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

Reference Information



$$A = \pi r^2$$

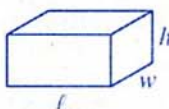
$$C = 2\pi r$$



$$A = \ell w$$



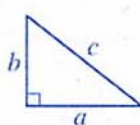
$$A = \frac{1}{2}bh$$



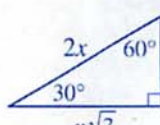
$$V = \ell wh$$



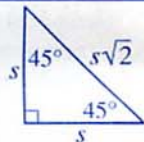
$$V = \pi r^2 h$$



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



Special Right Triangles



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

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

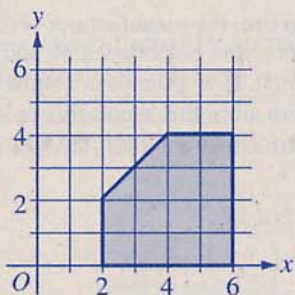
1. If
- $2x + y = 8$
- and
- $x + 2 = 5$
- , what is the value of
- y
- ?

- (A) 2
(B) $\frac{5}{2}$
(C) 3
(D) 6
(E) 14

2. 20 percent of 5 is 50 percent of what number?

- (A) 40
(B) 20
(C) 10
(D) 4
(E) 2

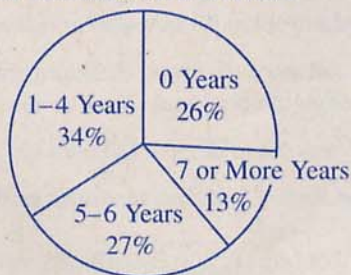
GO ON TO THE NEXT PAGE



3. What is the area of the shaded pentagon in the figure above?

(A) 13
(B) 14
(C) 15
(D) 16
(E) 22

NUMBER OF YEARS
OF HIGHER EDUCATION



4. The graph above shows the distribution of the number of years of higher education for a group of 6,000 adults. According to the graph, how many of these adults had 5 or more years of higher education?

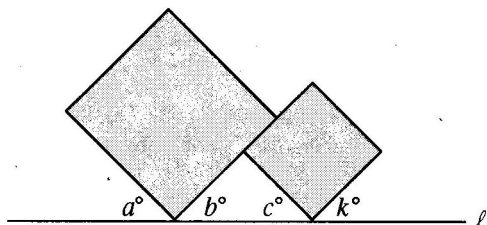
(A) 780
(B) 1,620
(C) 1,800
(D) 2,400
(E) 3,420

5. If $\frac{a}{b} = \frac{1}{k}$, which of the following must equal 1?

(A) a
(B) k
(C) bk
(D) $\frac{b}{a}$
(E) $\frac{ak}{b}$

6. When the positive integer x is divided by 5, the remainder is 3. What is the remainder when $x + 19$ is divided by 5?

(A) 0
(B) 1
(C) 2
(D) 3
(E) 4



Note: Figure not drawn to scale.

7. In the figure above, the two shaded regions are squares. Which of the following must be true?

(A) $a = b$
(B) $a = k$
(C) $b = c$
(D) $b = k$
(E) $c = k$

8. For a certain tire, the manufacturer recommends that the air pressure be between 30 and 34 pounds per square inch. If x pounds per square inch is the air pressure in a tire that meets this recommendation, which of the following represents all possible values of x ?

(A) $|x - 32| < 2$
(B) $|x + 32| < 2$
(C) $|x - 32| > 2$
(D) $|x + 32| > 2$
(E) $|x - 32| = 2$

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.

Write answer in boxes. →

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

Grid in result. →

Fraction line

Answer: 2.5

Decimal point

Answer: 201

Either position is correct.

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 $\frac{311}{2}$ 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

. 6 6 6

. 6 6 7

9. A gym class of 33 students is to be divided into teams of 2 or more players each. If each team must have the same number of students and every student must be on a team, what is the maximum number of teams possible?

10. What is the area of a right triangle whose sides have lengths 10, 24, and 26?

300, 150, 75, 226, 113, 340, 170, ...

11. In the sequence above, 300 is the first term and each term thereafter is obtained by using the following rules.

- If the previous term is even, divide it by 2.
- If the previous term is odd, multiply it by 3 and then add 1.

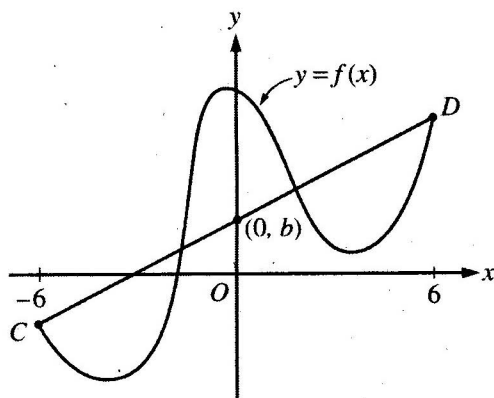
What is the tenth term of the sequence?

12. If $10a + 10b = 32$, what is the value of $a + b$?

13. Don and his six friends played two rounds of a board game, and each round yielded an integer score for each player. The two scores for each player were added together. The total scores for the seven players were 73, 89, 69, 50, 89, 58, and Don's total score, which was the median of the seven scores. If Don's score in the first round was 25 points, what is one possible score Don could have earned in the second round?

14. If $(\sqrt{a})^n = 5$, what is the value of $\frac{1}{a^n}$?

15. A spherical ball of clay with a radius of 2 inches contains exactly enough clay to make a brick. How many such bricks could be made using the amount of clay in a spherical ball with a radius of 4 inches? (The volume V of a sphere with radius r is given by $V = \frac{4}{3}\pi r^3$.)



16. The figure above shows the graph of the function f and line segment \overline{CD} , which has a y -intercept of b . For how many values of x between -6 and 6 does $f(x) = b$?

17. Set S consists of n integers, and the difference between the greatest integer in S and the least integer in S is 550. A new set of n integers, set T , is formed by multiplying each integer in S by 4 and then adding 5 to the product. What is the difference between the greatest integer in T and the least integer in T ?

18. For any real numbers a and b such that $a \neq -b$, let $a \blacktriangledown b$ be defined by $a \blacktriangledown b = \frac{a-b}{a+b}$. If $a - b = 64$ and $a \blacktriangledown b = 16$, what is the value of a ?

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) ☒

1. More concerned with contributing to science than with earning public acclaim, nineteenth-century astronomer Caroline Herschel ----- the ----- she received for her achievements.
- (A) relished . . status
(B) resisted . . recognition
(C) denied . . subordination
(D) escaped . . seclusion
(E) demanded . . acceptance
2. The art professor was never one to -----: she always stuck closely to the subject of every lecture.
- (A) carp (B) recant (C) retaliate
(D) digress (E) truncate

3. A researcher who described a peaceful reunion between normally adversarial chimpanzees as a ----- was criticized for inferring human motives.
- (A) truce (B) competition (C) mischance
(D) coincidence (E) miscalculation
4. Because insect communities serve as a sort of barometer, ----- conditions in their -----, an entomologist's analysis of the insect species in a handful of soil can reveal much about the ecosystem.
- (A) preserving . . habitat
(B) stabilizing . . range
(C) observing . . population
(D) predicting . . destination
(E) registering . . environment
5. In stark contrast to the vague and often rambling comments of other students, Jessica's remarks were refreshingly -----.
- (A) ambiguous (B) verbose (C) convoluted
(D) lucid (E) benign
6. Nineteenth-century Plains Indians valued ----- quite highly and expected their elites to be the most giving of all.
- (A) intrepidity (B) reticence (C) candor
(D) jocularity (E) munificence



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.

The following passages discuss an important issue in urban life.

Passage 1

Life in a pedestrian-friendly city cushions the slights of the auto age. Slowly, though, and over time, the lesions to my hometown of Boston penetrated my consciousness. As the landscape of the 1970s and the 1980s occupied my writing as an architecture critic, I came to realize that the designs I saw often literally housed more cars than human occupants: that building to building, place to place, office complex to complex, dwelling to dwelling, every institution and every structure did obeisance to the automobile.

To be sure, Boston's pedestrians are notable—or notorious—for their assertive stance against the automobile. Indeed, the word “jaywalking” was invented here. On foot, Bostonians bully the car. Even in this walking hub, however, the 1980s saw the motor vehicle create a sub-city of garages and parking lots, gnaw the sidewalk, and slick the city's surfaces with oil. Garage doors and black hole entrances lacerated the street. Walking by the city's newer buildings, the pedestrian is now as likely to be ambushed by a car sliding from some underground garage as to be visually assaulted by gap-toothed parking lots and eerie garage facades.

“Plan for People, Not Just Autos” was the title of an article I wrote about this new architecture that genuflects to the highway. I have watched this deference to the automobile manifest itself in worse ways across the continent. Time after time, I have witnessed cities and other environments become asphalt encrusted as the urge to hold the cars of shoppers or home owners has taken primacy. As economist Donald Shoup summed it up, “Form no longer follows function, fashion, or even finance. Instead, form follows parking requirements.” In the end, the car's horizontal needs at rest and in motion mean that architecture is car bound.

For us these needs encompass some 200 million moving vehicles traveling 2 trillion-plus miles a year on roads and ramps, along with parking lots for resting. As speed and the search for parking have become the ultimate quests, a new urban axiom has evolved: if a city is easy to park in, it's hard to live in; if it's easy to live in, it's hard to park in. Architecture critic Lewis Mumford predicted no less more than 40 years ago: “The right to have access to every building in the city by private motorcar in an age when everyone possesses such a vehicle is actually the right to destroy the city.”

Passage 2

Today everyone who values cities is disturbed by automobiles.

Traffic arteries, along with parking lots, gas stations, and driveways, are powerful and insistent instruments of city destruction. To accommodate them, city streets are broken down into loose sprawls, incoherent and vacuous for anyone afoot. City character is blurred until every place becomes more like every other place, all adding up to Noplace. And in the areas most defeated, uses that cannot stand functionally alone—shopping malls, or residences, or places of public assembly, or centers of work—are severed from one another.

But we blame automobiles for too much.

Suppose automobiles had never been invented, or that they had been neglected and we traveled instead in efficient, convenient, speedy, comfortable, mechanized mass transit. Undoubtedly, we would save immense sums that might be put to better use. But they might not. Indeed, we would have had essentially the same results I just blamed on cars due to the sorry state of conventional urban planning. And then automobiles would have to be invented or would have to be rescued from neglect, for they would be necessary to spare people from vacuity, danger, and utter institutionalization.

The reason for this is that it is questionable how much of the destruction wrought by automobiles on cities is really a response to transportation and traffic needs, and how much of it is owing to sheer disrespect for other city needs, uses, and functions. Like city builders who face a blank when they try to think of what to do instead of massive building projects, highway builders and traffic engineers face a blank when they try to think what they can realistically do, day by day, except try to overcome traffic kinks as they occur and apply what foresight they can toward moving and storing more cars in the future.

Good transportation and communication are not only among the most difficult things to achieve; they are also basic necessities. The point of cities is multiplicity of choice. It is impossible to take advantage of multiplicity of choice without being able to get around easily. Furthermore, the economic foundation of cities is trade. Trade in ideas, services, skills, and personnel—and certainly in goods—demands efficient, fluid transportation and communication. The power of mechanized vehicles can make it easier to reconcile great concentrations of people with efficient movement of people and goods. Thus automobiles can hardly be inherent destroyers of cities. In fact, we should see that the car is a potentially exciting and liberating instrument for city life.



7. Both passages are primarily concerned with the
- (A) problems faced by Boston pedestrians
 - (B) impact of automobiles on city life
 - (C) economic needs of contemporary cities
 - (D) difficulties in keeping automobiles in cities
 - (E) views of architects about city design
8. Which of the following statements best characterizes the relationship between the two passages?
- (A) The author of Passage 2 provides additional data in support of the argument offered by the author of Passage 1.
 - (B) The author of Passage 2 argues against a proposal put forth by the author of Passage 1.
 - (C) The author of Passage 2 presents a more evenhanded consideration of a phenomenon harshly criticized by the author of Passage 1.
 - (D) The author of Passage 2 provides a point-by-point response to the issues raised by the author of Passage 1.
 - (E) The author of Passage 2 offers historical insight into a practice discussed by the author of Passage 1.
9. The author of Passage 2 would most likely argue that the “lesions” (line 2, Passage 1)
- (A) are an unfortunate side effect of underutilizing public transportation
 - (B) can easily be rectified if attention is devoted to the problem
 - (C) are far more common than many people believe
 - (D) are not solely the result of transportation and traffic needs
 - (E) are the product of the public’s uninformed political choices
10. The author of Passage 1 mentions “jaywalking” (line 12) primarily in order to
- (A) support a characterization
 - (B) defend a practice
 - (C) criticize an attitude
 - (D) define a term
 - (E) describe a transgression
11. The attitude of the author of Passage 1 toward “this deference” (line 24) is primarily one of
- (A) shame
 - (B) disdain
 - (C) bemusement
 - (D) defensiveness
 - (E) unconcern
12. Which best characterizes the tone of Donald Shoup’s comment in lines 29-31, Passage 1 (“Form no . . . requirements”) ?
- (A) Laudatory
 - (B) Despondent
 - (C) Repentant
 - (D) Wry
 - (E) Earnest
13. In line 45, “disturbed” most nearly means
- (A) displaced
 - (B) baffled
 - (C) destabilized
 - (D) troubled
 - (E) disrupted
14. Lines 47-56 in Passage 2 (“Traffic . . . another”) serve primarily to
- (A) trace the origins of a phenomenon
 - (B) minimize a purported problem
 - (C) mock a prevailing situation
 - (D) defend an intended result
 - (E) describe a current situation
15. The author of Passage 1 would most likely view the description of “Noplace” in lines 51-53, Passage 2, as an
- (A) unfair characterization of a vexing issue
 - (B) accurate reflection of a state of affairs
 - (C) amusing exaggeration of an unusual problem
 - (D) illogical conclusion from the available evidence
 - (E) unfortunate digression in a compelling argument
16. In lines 58-68, Passage 2 (“Suppose automobiles . . . institutionalization”), the author presents a
- (A) historical comparison
 - (B) universal mandate
 - (C) hypothetical scenario
 - (D) scientific observation
 - (E) logical fallacy



17. In the context of Passage 2, the primary purpose of the last paragraph (lines 80-93) is to

- (A) illustrate why people choose to live in cities
- (B) emphasize why multiplicity is key to economic success
- (C) point out the importance of cars to cities
- (D) describe how cities can be better designed to accommodate cars
- (E) note parallels between the transportation and communication industries

18. Lines 18-21 in Passage 1 ("Walking by . . . facades") and lines 49-51 in Passage 2 ("To accommodate . . . afoot") both primarily serve to

- (A) illustrate a problem
- (B) suggest an action
- (C) defend an alternative
- (D) describe an approach
- (E) criticize a behavior

19. Passage 1 most directly challenges which of the following statements from Passage 2 ?

- (A) "Today everyone who values cities is disturbed by automobiles." (lines 45-46)
- (B) "City character is blurred until every place becomes more like every other place, all adding up to Noplace." (lines 51-53)
- (C) "Good transportation and communication are not only among the most difficult things to achieve; they are also basic necessities." (lines 80-82)
- (D) "Trade in ideas, services, skills, and personnel—and certainly in goods—demands efficient, fluid transportation and communication." (lines 86-88)
- (E) "In fact, we should see that the car is a potentially exciting and liberating instrument for city life." (lines 91-93)

STOP

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



SECTION 9

Time — 20 minutes

16 Questions

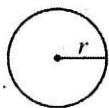
Turn to Section 9 (page 7) of your answer sheet to answer the questions in this section.

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

Notes

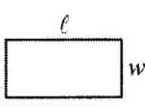
1. The use of a calculator is permitted.
2. All numbers used are real numbers.
3. Figures that accompany problems in this test are intended to provide information useful in solving the problems. They are drawn as accurately as possible EXCEPT when it is stated in a specific problem that the figure is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

Reference Information

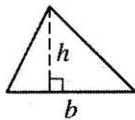


$$A = \pi r^2$$

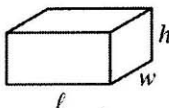
$$C = 2\pi r$$



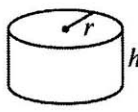
$$A = \ell w$$



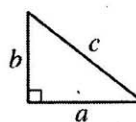
$$A = \frac{1}{2}bh$$



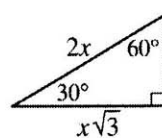
$$V = \ell wh$$



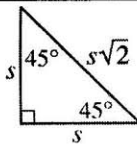
$$V = \pi r^2 h$$



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



Special Right Triangles

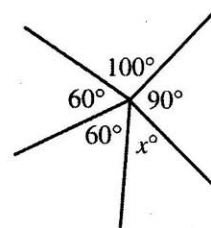


The number of degrees of arc in a circle is 360.

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

1. If $n > 0$, for what value of n will $n^2 - 4 = 12$?

- (A) 3
(B) 4
(C) 6
(D) 8
(E) 16



2. What is the value of x in the figure above?

- (A) 30
(B) 35
(C) 40
(D) 45
(E) 50

GO ON TO THE NEXT PAGE



3. When 1,800 homing pigeons were released, they were to fly to a destination 200 miles away. Of the 1,800 pigeons, only 300 reached the destination. What fraction of the pigeons that were released did not reach the destination?

(A) $\frac{5}{6}$
(B) $\frac{3}{4}$
(C) $\frac{6}{7}$
(D) $\frac{8}{9}$
(E) $\frac{9}{10}$

x	y
$\frac{1}{3}$	4
$\frac{1}{2}$	6
$\frac{5}{6}$?
2	24
3	36

4. In the table above, x and y are directly proportional.

What is the value of y when x is $\frac{5}{6}$?

(A) 8
(B) 9
(C) 10
(D) 12
(E) 18

5. In a rectangular solid, eight of the edges each have a length of 6 inches and the other four each have a length of 24 inches. What is the volume, in cubic inches, of the rectangular solid?

(A) 228
(B) 576
(C) 864
(D) 1,728
(E) 3,456

6. At a book sale, all paperback books cost d dollars each and all hardback books cost $2d$ dollars each. If Kate paid $7d$ dollars for 5 books at this sale, how many paperback books did she buy?

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



7. If x is a positive odd integer and $60 < 3x + 8 < 70$, what is the value of $3x + 8$?

(A) 63
(B) 65
(C) 67
(D) 68
(E) 69

8. Four different lines j , k , ℓ , and m are drawn in a plane so that $j \parallel m$, $\ell \parallel k$, and $m \perp \ell$. Lines j and ℓ intersect at point P , and lines m and k intersect at point Q . Which of the following lines must be perpendicular to \overline{PQ} ?

I. j

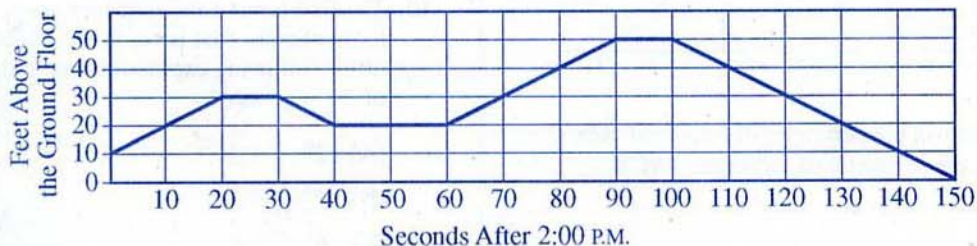
II. ℓ

III. m

(A) None
(B) I only
(C) II only
(D) I and II
(E) II and III



Questions 9-10 refer to the following graph, which shows the height of an elevator above the ground floor of a building during a brief period after 2:00 one afternoon.

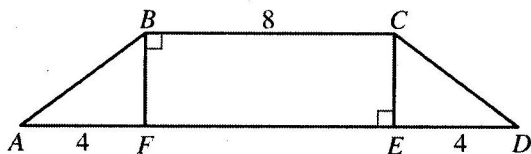


9. How many stops did the elevator make between 2:00 and 140 seconds after 2:00 ?

- (A) Two
- (B) Three
- (C) Four
- (D) Five
- (E) Seven

10. What is the total distance, in feet, that the elevator traveled between 2:00 and 2:02 ?

- (A) 20
- (B) 30
- (C) 50
- (D) 80
- (E) 110



11. In the figure above, the perimeter of trapezoid $ABCD$ is 34. What is the perimeter of rectangle $FBCE$?

(A) 26
(B) 25
(C) 24
(D) 22
(E) 16

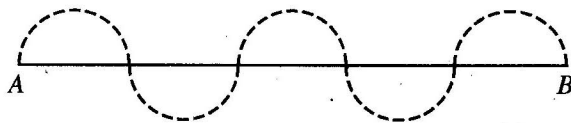
12. The function h is defined by $h(x) = x^2 + tx - 10$, where t is a constant. In the xy -plane, the graph of $y = h(x)$ crosses the x -axis where $x = 5$. What is the value of t ?

(A) -7
(B) -3
(C) -2
(D) 2
(E) 5

2, 4, 8, ...

13. The first term of the sequence above is 2, and each term after the first is twice the preceding term. Which of the following expressions represents the n th term of the sequence?

(A) 2^n
(B) 2^{n-1}
(C) n^2
(D) $(n-1)^2$
(E) $2n$



14. In the figure above, the diameters of the 5 dotted semicircles are equal and lie on line segment \overline{AB} . If the length of line segment \overline{AB} is 20, what is the length of the dotted curve from A to B ?

(A) 4π
(B) 8π
(C) 10π
(D) 12.5π
(E) 20π



15. For which of the following functions is it true that $-f(x) = f(-x)$ for all values of x ?

(A) $f(x) = x + 4$
(B) $f(x) = x^2 + 4$
(C) $f(x) = x^3 + 4$
(D) $f(x) = x^2 + x$
(E) $f(x) = x^3 + x$

16. If n can be any integer such that $6 < \sqrt{n} < 10$, what is the difference between the largest possible value of n and the smallest possible value of n ?

(A) 2
(B) 4
(C) 16
(D) 62
(E) 64

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. Sometimes loud and frequently annoying, crows spending a lot of time spreading trash across suburban lawns.
- (A) crows spending
 - (B) crows to spend
 - (C) crows spend
 - (D) crows, which spend
 - (E) crows, they spend

2. According to the results of a recent experiment, success in dieting may depend on eating smaller portions served on smaller dishes.

- (A) success in dieting may depend
- (B) success in dieting, which may depend
- (C) success in dieting might be depending
- (D) when dieting successfully, it may depend
- (E) to diet successfully depending

3. Living on a diet of fruits and insects, the flexible snout and lips of the sloth bear blow away dirt in its search for food.

- (A) Living on a diet of fruits and insects, the flexible snout and lips of the sloth bear blow away dirt in its search for food.
- (B) The sloth bear, which lives on a diet of fruits and insects, uses its flexible snout and lips to blow away dirt in its search for food.
- (C) The sloth bear, using its flexible snout and lips, living on a diet of fruit and insects, and blowing away dirt in its search for food.
- (D) The sloth bear's flexible snout and lips, living on a diet of fruits and insects, blow away dirt in its search for food.
- (E) Blowing away dirt in its search for food, the flexible snout and lips are used by the sloth bear, which lives on a diet of fruits and insects.

4. *The Great Gatsby* is now considered a classic novel set in America's Jazz Age, but in 1925 its reviews would be mixed and its sales would have been disappointing.

- (A) its reviews would be mixed and its sales would have been disappointing
- (B) its reviews are mixed and its sales would be disappointing
- (C) its reviews were mixed and its sales disappointing
- (D) it had mixed reviews and its disappointing sales
- (E) reviews were mixed and also disappointing sales



5. Dunnarts are small marsupials that can survive at birth without a fully functional respiratory system because, unlike other mammals, dunnarts can absorb oxygen through their skin when they are newborn.
- (A) system because, unlike other mammals,
(B) system and because, unlike other mammals,
(C) system, unlike other mammals, and because
(D) system, and being unlike other mammals because
(E) system; unlike other mammals because
6. Many places in the Arctic region yield evidence of late Precambrian glaciation, which took place about 650 million years ago and which it is the belief of some scientists was global in extent.
- (A) it is the belief of some scientists
(B) it is the belief of some scientists it
(C) some scientists have the belief that
(D) some scientists believe
(E) some scientists believe it
7. The list of Mayan deities that represent various natural forces suggest that the ancient Mayans were keenly attuned to their environment.
- (A) suggest
(B) suggests
(C) suggesting
(D) having suggested
(E) that suggest
8. During the Great Depression, Dorothea Lange's photographs brought public attention to the plight of farm workers, being distributed free of charge to newspapers.
- (A) photographs brought public attention to the plight of farm workers, being distributed free of charge to newspapers
(B) photographs brought public attention to the plight of farm workers, which were distributed free of charge to newspapers
(C) photographs, which she distributed free of charge to newspapers and brought public attention to the plight of farm workers
(D) photographs, distributed free of charge to newspapers, bringing public attention to the plight of farm workers
(E) photographs, distributed free of charge to newspapers, brought public attention to the plight of farm workers
9. Few people today have ever heard of Ralph Teetor, the inventor of cruise control, nevertheless, he ranks among the outstanding automotive pioneers of the twentieth century.
- (A) control, nevertheless, he ranks
(B) control, which nevertheless ranks him
(C) control, ranking, nevertheless,
(D) control; who nevertheless ranks
(E) control; nevertheless, he ranks
10. Writing as though Australia were the center of the world, Banjo Paterson became the country's best-loved poet.
- (A) Writing as though Australia were the center of the world, Banjo Paterson became the country's best-loved poet.
(B) Banjo Paterson wrote as though Australia were the center of the world, he became the country's best-loved poet.
(C) Banjo Paterson, who wrote as though Australia was the center of the world, becoming the country's best-loved poet.
(D) Banjo Paterson became Australia's best-loved poet, he wrote as though the country were the center of the world.
(E) Becoming the best-loved Australian poet, Banjo Paterson wrote as though it were the center of the world.
11. Carrying signs and waving flags, the company's corporate office was surrounded by angry demonstrators demanding better health benefits.
- (A) the company's corporate office was surrounded by angry demonstrators demanding better health benefits
(B) the company's corporate office, surrounded by angry demonstrators demanding better health benefits
(C) angry demonstrators demanding better health benefits surrounded the company's corporate office
(D) angry demonstrators surrounding the company's corporate office demanding better health benefits
(E) demanding better health benefits, the company's corporate office was surrounded by angry demonstrators



12. Without the invention of the compass, Magellan might not have sailed around the world, Lewis and Clark might not have traveled to Oregon, nor might de Soto's search for the fabled cities of gold have occurred, either.
- (A) nor might de Soto's search for the fabled cities of gold have occurred, either
(B) nor might de Soto search for the fabled cities of gold
(C) and de Soto's search for the fabled cities of gold might not have taken place
(D) and de Soto might not search for the fabled cities of gold
(E) and de Soto might not have searched for the fabled cities of gold
13. The art of many pre-Columbian and post-Columbian Native American cultures are rooted in a perception that dualities are found everywhere in nature.
- (A) are rooted
(B) is rooted
(C) rooting
(D) with roots
(E) having roots
14. When thinking about which current television shows have the potential to become classics, only a few come to mind.
- (A) When thinking about which current television shows have
(B) When thinking about which are the current television shows with
(C) When one thinks about which current television shows have
(D) When one thinks about which are the current television shows with
(E) Thinking about current television shows and which of them have

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.

me

Critical Reading

Section 8

Number correct

Number incorrect

Mathematics

Section 9

Number correct

Number incorrect

Writing Multiple-Choice

Section 10

Number correct

Number incorrect

-49-

The Scoring Process

1. **Scanning.** Your answer sheet is scanned electronically, and the circle you filled in for each question is recorded in a computer file.
2. **Scoring.** The computer compares the circle filled in for each question with the correct response.

- Each correct answer receives one point.
- Omitted questions do not count toward your score.
- One-fourth of a point is subtracted for each wrong answer to multiple-choice questions. No points are subtracted for wrong answers to the student-produced response mathematics questions.

Example:

The critical reading section, for example, has 67 questions. If you have 37 right, 28 wrong, and 2 omitted, the resulting raw score of 30 is determined as follows:

$$37 - 28 \left(\frac{1}{4} \right) = 37 - 7 = 30$$

- If the raw score is a fractional number, it is rounded to the nearest whole number. For example, a raw score of 36.25 is rounded to 36, the nearest whole number. A raw score of 36.50 is rounded upward to 37.
3. **Essay scoring.** Using the scoring guide shown on page 51, specially trained high school and college teachers score the essay. Each essay is read independently by two readers who rate it on a scale of 1 to 6. (If the two scores differ by more than one point, a third reader scores the essay.) The two readers' scores are added together, and the essay subscore is reported on a scale of 2 to 12. The essay section is worth approximately 30 percent of the raw score, and the multiple-choice writing section counts for approximately 70 percent.
 4. **Converting raw scores to scaled scores.** Raw scores are then placed on the scale of 200–800 through a process that adjusts scores to account for minor differences in difficulty among different editions of the test. This process, known as equating, is performed so that a student's reported score is not affected by the edition of the test taken or by the abilities of the group with whom the student takes the test. As a result of placing SAT scores on the College Board scale, scores earned by students at different times can be compared. For example, an SAT mathematics score of 400 on a test taken at one administration indicates the same level of developed mathematics ability as a 400 score obtained on a different edition of the test taken at another time.

SAT Essay Scoring Guide

SCORE OF 6

An essay in this category demonstrates *clear and consistent mastery*, although it may have a few minor errors. A typical essay

- effectively and insightfully develops a point of view on the issue and demonstrates outstanding critical thinking, using clearly appropriate examples, reasons, and other evidence to support its position
- is well organized and clearly focused, demonstrating clear coherence and smooth progression of ideas
- exhibits skillful use of language, using a varied, accurate, and apt vocabulary
- demonstrates meaningful variety in sentence structure
- is free of most errors in grammar, usage, and mechanics

SCORE OF 3

An essay in this category demonstrates *developing mastery*, and is marked by ONE OR MORE of the following weaknesses:

- develops a point of view on the issue, demonstrating some critical thinking, but may do so inconsistently or use inadequate examples, reasons, or other evidence to support its position
- is limited in its organization or focus, or may demonstrate some lapses in coherence or progression of ideas
- displays developing facility in the use of language, but sometimes uses weak vocabulary or inappropriate word choice
- lacks variety or demonstrates problems in sentence structure
- contains an accumulation of errors in grammar, usage, and mechanics

SCORE OF 5

An essay in this category demonstrates *reasonably consistent mastery*, although it will have occasional errors or lapses in quality. A typical essay

- effectively develops a point of view on the issue and demonstrates strong critical thinking, generally using appropriate examples, reasons, and other evidence to support its position
- is well organized and focused, demonstrating coherence and progression of ideas
- exhibits facility in the use of language, using appropriate vocabulary
- demonstrates variety in sentence structure
- is generally free of most errors in grammar, usage, and mechanics

SCORE OF 2

An essay in this category demonstrates *little mastery*, and is flawed by ONE OR MORE of the following weaknesses:

- develops a point of view on the issue that is vague or seriously limited, and demonstrates weak critical thinking, providing inappropriate or insufficient examples, reasons, or other evidence to support its position
- is poorly organized and/or focused, or demonstrates serious problems with coherence or progression of ideas
- displays very little facility in the use of language, using very limited vocabulary or incorrect word choice
- demonstrates frequent problems in sentence structure
- contains errors in grammar, usage, and mechanics so serious that meaning is somewhat obscured

SCORE OF 4

An essay in this category demonstrates *adequate mastery*, although it will have lapses in quality. A typical essay

- develops a point of view on the issue and demonstrates competent critical thinking, using adequate examples, reasons, and other evidence to support its position
- is generally organized and focused, demonstrating some coherence and progression of ideas
- exhibits adequate but inconsistent facility in the use of language, using generally appropriate vocabulary
- demonstrates some variety in sentence structure
- has some errors in grammar, usage, and mechanics

SCORE OF 1

An essay in this category demonstrates *very little or no mastery*, and is severely flawed by ONE OR MORE of the following weaknesses:

- develops no viable point of view on the issue, or provides little or no evidence to support its position
- is disorganized or unfocused, resulting in a disjointed or incoherent essay
- displays fundamental errors in vocabulary
- demonstrates severe flaws in sentence structure
- contains pervasive errors in grammar, usage, or mechanics that persistently interfere with meaning

Essays not written on the essay assignment will receive a score of zero.

Scoring Worksheet for Form Codes AERV, BWRV, CFRV

From your responses on your QAS report, fill in the blanks below and do the calculations to get your critical reading, mathematics, and writing raw scores. Use the tables on the following pages to find your scaled scores.

Get Your Critical Reading Score

How many critical reading questions did you get **right**?

Section 2: Questions 1–24 _____

Section 6: Questions 1–24 + _____

Section 8: Questions 1–19 + _____

Total = _____ (A)

How many critical reading questions did you get **wrong**?

Section 2: Questions 1–24 _____

Section 6: Questions 1–24 + _____

Section 8: Questions 1–19 + _____

Total = _____

$\times 0.25 =$ _____ (B)

A – B = _____
Critical Reading
Raw Score

Round the critical reading raw score to the nearest whole number.

Use the table on page 53 to find your critical reading scaled score.

Get Your Mathematics Score

How many mathematics questions did you get **right**?

Section 4: Questions 1–20 _____

Section 7: Questions 1–18 + _____

Section 9: Questions 1–16 + _____

Total = _____ (A)

How many **multiple-choice** mathematics questions did you get **wrong**?

Section 4: Questions 1–20 _____

Section 7: Questions 1–18 + _____

Section 9: Questions 1–16 + _____

Total = _____

$\times 0.25 =$ _____ (B)

A – B = _____
Mathematics Raw Score

Round the mathematics raw score to the nearest whole number.

Use the table on page 53 to find your mathematics scaled score.

Get Your Writing Score

How many multiple-choice writing questions did you get **right**?

Section 5: Questions 1–35 _____

Section 10: Questions 1–14 + _____

Total = _____ (A)

How many multiple-choice writing questions did you get **wrong**?

Section 5: Questions 1–35 _____

Section 10: Questions 1–14 + _____

Total = _____

$\times 0.25 =$ _____ (B)

A – B = _____
Writing Multiple-Choice
Raw Score

Round the writing multiple-choice raw score to the nearest whole number.

_____ (C)

Use the table on page 53 to find your writing multiple-choice scaled score.

Copy your essay score from your QAS report.

_____ (D)

Use the appropriate writing composite table (pages 54–56) for your form code and look up your writing multiple-choice raw score (C) and your essay score (D) to find your writing composite scaled score.

SAT Score Conversion Table

Form Codes AERV, BWRV, CFRV

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			30	510	540	53
66	800			29	500	530	52
65	800			28	500	520	52
64	800			27	490	520	51
63	780			26	480	510	50
62	760			25	480	500	49
61	750			24	470	490	48
60	730			23	460	490	47
59	720			22	460	480	46
58	710			21	450	470	46
57	700			20	440	460	45
56	690			19	440	460	44
55	680			18	430	450	43
54	670	800		17	420	440	42
53	660	780		16	420	430	41
52	660	750		15	410	430	40
51	650	730		14	400	420	39
50	640	720		13	390	410	39
49	630	700	80	12	390	400	38
48	630	690	79	11	380	390	37
47	620	680	76	10	370	380	36
46	610	670	73	9	360	380	35
45	600	660	71	8	350	370	34
44	600	650	69	7	340	360	33
43	590	650	68	6	330	350	32
42	580	640	66	5	320	330	31
41	580	630	65	4	310	320	29
40	570	620	64	3	290	310	28
39	560	610	62	2	280	300	27
38	560	600	61	1	260	280	25
37	550	600	60	0	240	260	23
36	550	590	59	-1	220	250	21
35	540	580	58	-2	200	230	20
34	530	570	57	-3	200	210	20
33	530	560	56	-4	200	200	20
32	520	560	55	and			
31	510	550	54	below			

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

SAT Writing Composite Score Conversion Table

Form Code AERV

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

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

SAT Writing Composite Score Conversion Table

Form Code BWRV

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

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

SAT Writing Composite Score Conversion Table

Form Code CFRV

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

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1

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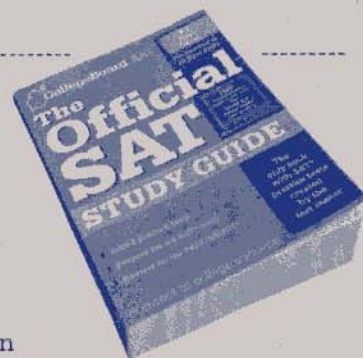
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