SECTION 1 Time—30 minutes 40 Questions For each question in this section, choose the best answer and fill in the corresponding oval on the answer sheet.

Each question below consists of a word in capital letters, followed by five lettered words or phrases. Choose the word or phrase that is most nearly opposite in meaning to the word in capital letters. Since some of the questions require you to distinguish fine shades of meaning, consider all the choices before deciding which is best.

Example:

GOOD: (A) sour (B) bad (C) red (D) hot (E) ugly

Ⓐ ● Ⓒ Ⓓ Ⓔ

1. SWELL: (A) diminish in size (B) enrich in content (C) demote in rank (D) forbid (E) deny

2. VIGOR: (A) misfortune (B) defeat (C) weakness (D) sentiment (E) thriftiness

3. WHIM: (A) good deed (B) serious purpose (C) brief announcement (D) crude expression (E) strong argument

4. WARRANTED: (A) unbelievable (B) undetermined (C) unjustified (D) undigested (E) unmistakable

5. ADHERENT: (A) liar (B) dissenter (C) judge (D) informer (E) buffoon

6. INTERMINABLE:
(A) rudely interrupted
(B) sparsely settled
(C) repeated and monotonous
(D) short and limited
(E) swift and skillful

7. REBUFF: (A) hasten (B) waste (C) deceive (D) embrace (E) conclude

8. ABSTEMIOUS: (A) silent (B) intelligent (C) disturbed (D) gluttonous (E) skeptical

9. ESOTERIC: (A) theoretical (B) exotic (C) sane (D) symptomatic (E) obvious

10. ASSIDUOUS:
(A) idle and inattentive
(B) furtive and stealthy
(C) boring and disappointing
(D) insolent and unpopular
(E) solitary and laconic

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

Example:

Although its publicity has been ----, the film itself is intelligent, well-acted, handsomely produced, and altogether ----.

(A) tasteless. .respectable (B) extensive. .moderate (C) sophisticated. .amateur (D) risqué. .crude (E) perfect. .spectacular

● Ⓑ Ⓒ Ⓓ Ⓔ

11. American pioneers moved west with tremendous hope, but often only ---- awaited them, given the ---- realities of the new land.

(A) excitement. .bleak (B) disillusionment. .harsh (C) success. .strenuous (D) surprise. .golden (E) failure. .abundant

12. Nontraditional use of sand paintings was first viewed by many Navaho people with dismay and is still a matter of ----.

(A) practicality (B) publicity (C) controversy (D) convenience (E) skill

13. Most of her letters to prominent Victorians have been destroyed, but those that are ---- are highly valued by scholars for their biographical content.

(A) archaic (B) literate (C) extant (D) vulnerable (E) optional

14. Under the ---- influence of current formalistic theories, thinking has lost all openness and its main aim now is to ---- preconceived ideas.

(A) contemporary. .challenge
(B) pluralistic. .surpass
(C) scrupulous. .renounce
(D) indeterminate. .appraise
(E) dogmatic. .confirm

15. Watson attributes the success of his rivals to the public's lack of ----, forgetting that his own reputation rests on the ---- of that public.

(A) insight. .hypocrisy
(B) erudition. .intervention
(C) discrimination. .approbation
(D) adventurousness. .authority
(E) information. .anticipation

GO ON TO THE NEXT PAGE

Each question below consists of a related pair of words or phrases, followed by five lettered pairs of words or phrases. Select the lettered pair that best expresses a relationship similar to that expressed in the original pair.

Example:

YAWN : BOREDOM :: (A) dream : sleep (B) anger : madness (C) smile : amusement (D) face : expression (E) impatience : rebellion

Ⓐ Ⓑ ● Ⓓ Ⓔ

16. ALBUM : PHOTOGRAPHS :: (A) trial : briefs (B) board : directors (C) meeting : agendas (D) scrapbook : clippings (E) checkbook : money

17. STOMACH : DIGEST :: (A) eyes : dilate (B) muscles : cramp (C) arteries : bleed (D) teeth : chew (E) bones : break

18. SIGNATURE : CONSENT ::
(A) employment : qualification
(B) writing : publication
(C) intellect : education
(D) wave : gesture
(E) nod : agreement

19. DRILL : HOLE :: (A) air : window (B) ax : tree (C) hammer : nail (D) string : bundle (E) plow : furrow

20. SEETHE : ANGER :: (A) smile : shame (B) writhe : nonchalance (C) precede : event (D) view : vision (E) glow : happiness

21. MOLT : FEATHERS :: (A) shear : wool (B) shed : hair (C) lop : branches (D) drop : stitch (E) fur : pelt

22. INDEFATIGABLE : ENERGY :: (A) hopeful : success (B) steadfast : loyalty (C) courageous : anxiety (D) careless : safety (E) aggressive : exuberance

23. ACCLAIM : ADMIRER :: (A) imitate : leader (B) rehearse : performer (C) censure : denouncer (D) destroy : bungler (E) inquire : accuser

24. GARRULOUS : TALK ::
(A) extravagant : spend
(B) loquacious : joke
(C) enthusiastic : stimulate
(D) antagonistic : retreat
(E) ruthless : sympathize

25. ACTORS : TROUPE :: (A) criminals : coterie (B) demagogues : junta (C) politicians : clique (D) scientists : equipment (E) soldiers : phalanx

GO ON TO THE NEXT PAGE

Each passage below is followed by questions based on its content. Answer the questions following each passage on the basis of what is stated or implied in that passage.

Human blood cells originate within the bone marrow, in a highly complicated process, at the rate of hundreds of billions of cells a day. Both red and white blood cells – along with colorless, disc-shaped particles called platelets – are suspended in an amber fluid called plasma. Scientists have learned how to generate these blood cells outside the human body, using a living mouse as a "factory."

The "mouse factory" system was developed in a laboratory where scientists constructed a device called a diffusion chamber. The sides of the chamber were made of fine filter paper with openings too small for cells to escape, but large enough to let fluid in. Human bone marrow cells, which form blood cells, were placed in the chamber which was then implanted inside the mouse's abdominal cavity. There it floated surrounded by all the vital fluids and nutrients necessary for cell growth. In a few weeks millions of blood cells were grown in this living laboratory, each one eventually differentiating into one of the various types found in normal bone marrow.

Not only does this chamber system permit scientists to study more closely the complex blood-forming activities that go on deep inside bone marrow, but it also may ultimately lead to improved treatment of blood diseases by providing more information about their origin. The chamber method may someday be a useful means of transplanting marrow in patients afflicted by such diseases as leukemia, a cancer of the blood-forming tissue, and anemia, a disease marked by a deficiency of red blood cells.

26. The main point of the passage is to
    (A) debate the advantages and disadvantages of the "mouse factory"
    (B) examine the role of laboratory mice in experiments
    (C) discuss a technique for studying blood cell formation
    (D) explain the role of human blood cells
    (E) give an example of cell transplantation from a human to an animal

27. According to the passage, which of the following statements about human blood cells is true?
    (A) They are a vital constituent of plasma.
    (B) They are indistinguishable from platelets.
    (C) They cannot exist outside of the human body.
    (D) They are disc-shaped and colorless.
    (E) They are produced in the bone marrow.

28. According to the author, the possible future benefits of the diffusion chamber include all of the following EXCEPT
    (A) information about the causes of certain blood diseases
    (B) data on blood cell formation in bone marrow
    (C) treatment for some blood-related diseases
    (D) reproduction of more complex types of human cells
    (E) transplantation of bone marrow into humans

GO ON TO THE NEXT PAGE

The reading passages in this test are brief excerpts or adaptations of excerpts from published material. The ideas contained in them do not necessarily represent the opinions of the College Board or Educational Testing Service. To make the text suitable for testing purposes, we may in some cases have altered the style, contents, or point of view of the original.

I am making this statement as an act of willful defiance of military authority, because I believe that the war is being deliberately prolonged by those
Line who have the power to end it. I am a soldier, con-
(5) vinced that I am acting on behalf of soldiers. I believe that this war, upon which I entered as a war of defense and liberation, has now become a war of aggression and conquest. I believe that the purposes for which I and my fellow soldiers entered
(10) upon this war should have been so clearly stated as to have made it impossible to change them. Had this been done, surely the goals which motivated our mobilization would now be attainable by negotiation. I have seen and endured the sufferings
(15) of the troops, and I can no longer be a party to the prolonging of these sufferings for ends which I believe to be evil and unjust. I am not protesting against the military leaders who conduct the war, but against the political leaders whose errors and hypoc-
(20) risies cheapen the sacrifices of our fighting men. For the sake of those lives which are being sacrificed even as I write, I make this protest against the deception practiced upon all our fighting men. I also hope that my protest may help to destroy the callous com-
(25) placency with which the majority of those at home regard the continuation of agonies which do not touch them and which they have not sufficient imagination to realize.

29. The passage suggests that the author would support which of the following views?

I. Soldiers should not be forced to defend a cause they see as wrong.
II. War should be recognized as immoral because of the suffering it causes.
III. Foreign policies set by a few should not be blindly accepted by all.

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

30. According to the author, which of the following is true of the politicians in charge of the war?

(A) They have been dishonest about their goals and have acted incompetently.
(B) They have shown far too little concern for public opinion.
(C) They lack both experience and enthusiasm.
(D) They need to establish their independence from military authority.
(E) They need to put greater effort into motivating the troops to fight.

31. If the author were to continue the passage, which of the following additional statements would best support the charge of "callous complacency" (lines 24-25) brought against the civilian population?

(A) There can be no doubt that the majority of the public shares my opposition to the war.
(B) It is often difficult to prove either public complacency or public concern.
(C) Whenever I hear people discuss the war, their criticisms are negative, never constructive.
(D) Editorialists and public speakers rarely ask why we are fighting the war.
(E) When soldiers are home on leave, they are often seen mingling with civilians.

32. The author's presentation is marked by an element of

(A) callousness (B) didacticism
(C) sentimentalism (D) opportunism
(E) fatalism

GO ON TO THE NEXT PAGE

Certain individuals, usually called professors, are charged with the duty of examining the construction of the plants, animals, and soils which are the instruments of a great orchestra. Each professor selects one instrument and spends his or her career taking it apart and describing its strings and sounding board, a process of dismemberment called research.

Professors may pluck the strings of their own instruments but never those of another, and if they listen for the music their instruments make, they must do so in secret. They are restrained by an ironbound taboo that decrees that the construction of instruments is the domain of science, while the detection of harmony is the domain of poets.

Of course, professors serve science and science serves progress—so well, in fact, that many intricate instruments are stepped upon and broken in the rush to spread progress around the world.

Science obviously contributes moral as well as material blessings to the world. Its great moral contribution is the scientific point of view, which, in essence, means doubting everything except facts. One of the facts cherished by science is the belief that every river needs more people, and all people need more inventions, and hence more science. The good life, according to science, depends on the indefinite extension of this chain of logic. That the good life on any river may likewise depend on the perception and preservation of its music largely has escaped the notice of science.

33. The "great orchestra" (line 4) is used as a metaphor for

(A) human nature
(B) a large university
(C) the natural world
(D) the aesthetic aspects of music
(E) the intricacy of scientific research

34. The author apparently views the "chain of logic" (line 28) as

(A) logically persuasive
(B) morally uplifting
(C) theoretically intricate
(D) scientifically impractical
(E) potentially dangerous

35. Which of the following best states the main idea of the passage?

(A) There are important similarities between the scientific method and the creation of music.
(B) The scientific method provides only a partial understanding of nature.
(C) If material progress is to continue, scientists must ignore the allure of the poetic.
(D) Material progress is destructive and attempts to further it should be stopped.
(E) Professors of the arts as well as the sciences must emphasize the teaching of scientific logic.

GO ON TO THE NEXT PAGE

As Newman passed on with his host he asked who the Duchess might be. "The greatest lady in France!" the Marquis hereupon reservedly replied. He then presented his prospective brother-in-law to some twenty other persons of both sexes, selected apparently for some recognized value of name or fame or attitude. In some cases their honors were written in a good round hand on the countenance of the wearer; in others Newman was thankful for such help as his companion's impressively brief intimation contributed to the discovery of them. Every one gave Newman extreme attention, every one lighted up for him regardless, as he would have said, of expense, every one was enchanted to make his acquaintance, every one looked at him with that fraudulent intensity of good society which puts out its bountiful hand but keeps the fingers closed over the coin. If the Marquis was going about as a bear-leader, if the fiction of Beauty and the Beast was supposed to show thus its companion piece, the general impression appeared that the bear was a very fair imitation of humanity.

It was handsome to be treated with so much explicit politeness, of course. It was handsome to meet civilities as pointed as witticisms, and to hear them so syllabled and articulated that they suggested handfuls of crisp counted notes pushed over by a banker's clerk. It was handsome of clever Frenchwomen—they all seemed clever—to turn their backs to their partners for a good look at the slightly gaunt outsider whom Claire de Cintré was to marry, and then shine on the subject as if they quite understood.

At last Newman caught the eye of the Marquis fixed on him inscrutably, and checked himself. "Am I behaving like a blamed fool?" he wondered. "Am I stepping about like a terrier on its hind legs?" At this moment he perceived Mrs. Tristram at the other side of the room and made his way to her.

"Am I holding my head too high and opening my mouth too wide?" he demanded. "Do I look as if they were saying 'Catch!' and I were snapping down what they throw me and licking my lips?"

"You look like all very successful men—fatuous without knowing it. Women triumph with more tact, just as they suffer with more grace. I've been watching you for the last ten minutes, and I've been watching M. de Bellegarde. He doesn't like what he has to do."

"The more credit to him for putting it through," Newman returned. "But I shall be generous. I shan't trouble him any more. Only I'm very happy. I can't stand still here. Please take my arm and we'll go for a walk."

36. The passage indicates that one purpose of the reception is to
    (A) introduce the Marquis to Newman's acquaintances
    (B) introduce Newman to acquaintances of the Marquis
    (C) celebrate Newman's engagement to Mrs. Tristram
    (D) celebrate Newman's arrival in France
    (E) honor the Marquis on his birthday

37. According to the passage, Newman considers the people at the reception to be all of the following EXCEPT
    (A) sophisticated (B) genuinely cordial (C) faultlessly proper (D) attentive (E) flattering

38. Which of the following best conveys the meaning of the statement "their honors were written in a good round hand on the countenance of the wearer" (lines 7-9)?
    (A) They looked candid and cheerful.
    (B) Their behavior was elegant and proper.
    (C) They introduced themselves in a respectful manner.
    (D) Their expressions all began to seem equally dignified and aloof.
    (E) Their importance was obvious to any observer.

39. The questions that Newman addresses to Mrs. Tristram reveal his
    (A) unease (B) cleverness (C) arrogance (D) anger (E) incautiousness

40. Which of the following can be inferred from the passage about Claire de Cintré and the Marquis?
    (A) Neither is particularly comfortable in the company at the reception.
    (B) It is unusual for them both to be found at the same party.
    (C) They were formerly married to one another.
    (D) They are sister and brother.
    (E) They are daughter and father.

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. **STOP**

SECTION 3 Time—30 minutes 25 Questions

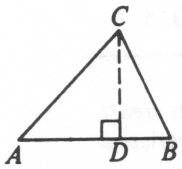
In this section solve each problem, using any available space on the page for scratchwork. Then decide which is the best of the choices given and fill in the corresponding oval on the answer sheet.

The following information is for your reference in solving some of the problems.

Circle of radius r: Area $= \pi r^2$; Circumference $= 2\pi r$
The number of degrees of arc in a circle is 360.
The measure in degrees of a straight angle is 180.

Definition of symbols:

$=$ is equal to	$\leqq$ is less than or equal to
$\neq$ is unequal to	$\geqq$ is greater than or equal to
$<$ is less than	$\parallel$ is parallel to
$>$ is greater than	$\perp$ is perpendicular to



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

If $\angle CDA$ is a right angle, then

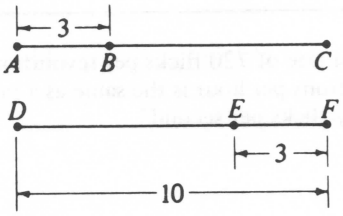
(1) area of $\triangle ABC = \dfrac{AB \times CD}{2}$

(2) $AC^2 = AD^2 + DC^2$

Note: 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 its figure is not drawn to scale. All figures lie in a plane unless otherwise indicated. All numbers used are real numbers.

1. If $\dfrac{1}{x+1} = \dfrac{1}{2}$, then $x =$

(A) 2 (B) 1 (C) 0 (D) −1 (E) −2



2. In the figure above, if $AC = DF = 10$, then $BC + DE =$

(A) 6 (B) 7 (C) 13 (D) 14 (E) 17

3. $\dfrac{2+3+6}{\frac{1}{2}+\frac{1}{3}+\frac{1}{6}} =$

(A) 3
(B) 11
(C) 49
(D) 66
(E) 121

4. If $x = -3$, then $(x+3)^2 - 3x =$

(A) −6 (B) −3 (C) 0 (D) 6 (E) 9

5. $\dfrac{2}{4} \times \dfrac{3}{6} \times \dfrac{4}{8} \times \dfrac{5}{10} =$

(A) $\dfrac{1}{2}$ (B) $\dfrac{1}{4}$ (C) $\dfrac{1}{8}$ (D) $\dfrac{1}{16}$ (E) $\dfrac{1}{32}$

6. What is 10 percent of 20 percent of $\dfrac{3}{2}$?

(A) 0.003
(B) 0.03
(C) 0.045
(D) 0.45
(E) 0.6

7. If $2^y = 8$ and $y = \dfrac{x}{2}$, then $x =$

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

GO ON TO THE NEXT PAGE

$$\begin{array}{r} 7X \\ +X1 \\ \hline 1Y7 \end{array}$$

8. The correct addition problem above shows the sum of two 2-digit numbers. If X and Y represent different nonzero digits, then $Y =$

(A) 1 (B) 3 (C) 6 (D) 7 (E) 8

9. What is the least number of squares with area 9 needed to cover completely, without overlap, a square with side of length 9 ?

(A) 2 (B) 3 (C) 4 (D) 9 (E) 12

10. Which of the following equations are equivalent?

I. $2x + 4y = 8$
II. $3x + 6y = 12$
III. $4x + 8y = 8$
IV. $6x + 12y = 16$

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

11. If the length of a rectangle is $x + 1$ and its area is 1, which of the following must be its width?

(A) 1

(B) $\frac{1}{2}$

(C) $\frac{1}{1-x}$

(D) $\frac{1}{x}$

(E) $\frac{1}{1+x}$

12. All numbers divisible by both 4 and 15 are also divisible by which of the following?

(A) 6
(B) 8
(C) 18
(D) 24
(E) 45

TEMPERATURES IN CITY X ON DECEMBER 6	
6 a.m.	10° below zero
8 a.m.	2° below zero
10 a.m.	15° above zero

13. The average (arithmetic mean) of the temperatures shown in the table above is

(A) 2° below zero
(B) 1° below zero
(C) 1° above zero
(D) 3° above zero
(E) 5° above zero

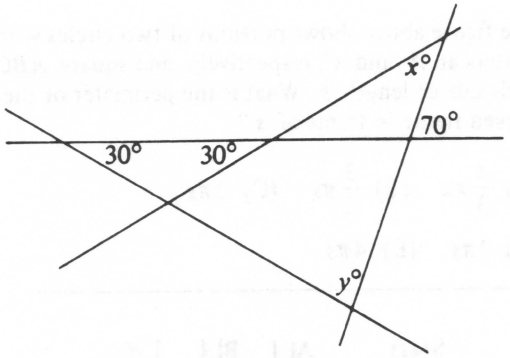
14. A uniform rate of 720 flicks per revolution and 20 revolutions per hour is the same as a rate of how many flicks per second?

(A) 4
(B) 5
(C) 24
(D) 36
(E) 240

GO ON TO THE NEXT PAGE

15. If the average (arithmetic mean) of 7 numbers is $7n$, then in terms of n the sum of these 7 numbers is

(A) $\frac{n}{7}$ (B) $7n$ (C) $\frac{49}{n}$ (D) $\frac{n}{49}$ (E) $49n$



16. If four lines intersect as shown in the figure above, what is the value of $x + y$?

(A) 140 (B) 130 (C) 120
(D) 110 (E) 100

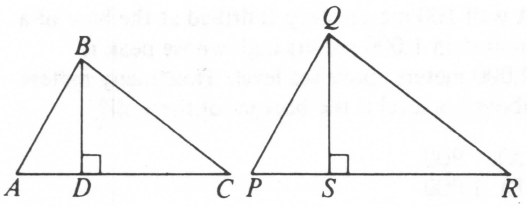
17. If $x > 1$, the value of which of the following expressions must increase as x increases?

I. $1 - \frac{1}{x}$

II. $\sqrt{x}$

III. $\frac{1}{x^2}$

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



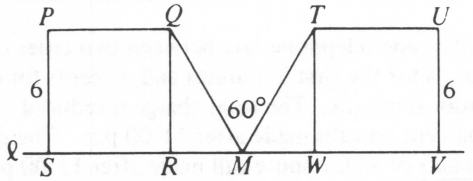
Note: Figures not drawn to scale.

18. The length of side PR of $\triangle PQR$ is 3 times the length of side AC of $\triangle ABC$. If the length of QS is twice the length of BD, the area of $\triangle PQR$ is how many times the area of $\triangle ABC$?

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

19. If the tenth number in a list of numbers is 27 and if each number after the first number in the list is 5 less than the number immediately preceding it, what is the fifth number in the list?

(A) 72
(B) 52
(C) 47
(D) 7
(E) 2



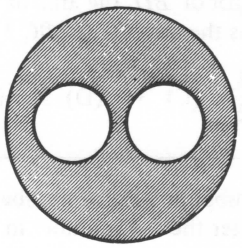
20. The figure above shows squares $PQRS$ and $TUVW$, each with side of length 6, that lie on line ℓ. If $RM = MW$, then $RW =$

(A) $2\sqrt{3}$ (B) 6 (C) $4\sqrt{3}$
(D) $6\sqrt{2}$ (E) 10

GO ON TO THE NEXT PAGE

21. A well 100 meters deep is drilled at the base of a mountain 1,000 meters high whose peak is 2,000 meters above sea level. How many meters above sea level is the bottom of the well?

(A) 900
(B) 1,000
(C) 1,100
(D) 1,900
(E) 2,100

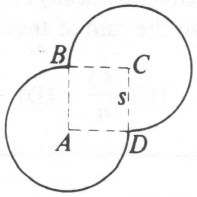


22. In the figure above, if the radii of the two smaller circles are each equal to $\frac{1}{3}$ of the radius of the larger circle, then the ratio $\frac{\text{area of shaded region}}{\text{area of larger circle}} =$

(A) $\frac{8}{9}$ (B) $\frac{7}{9}$ (C) $\frac{2}{3}$ (D) $\frac{4}{9}$ (E) $\frac{1}{3}$

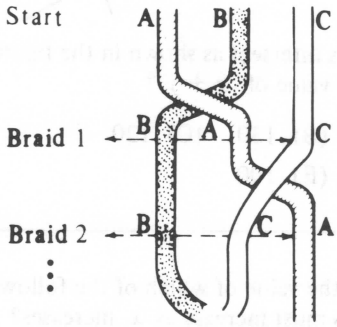
23. The daytime telephone rate between two cities is 90 cents for the first 3 minutes and c cents for each additional minute. The total charge is reduced 65 percent on calls made after 11:00 p.m. The cost in dollars of a 30-minute call made after 11:00 p.m. between these two cities is

(A) $0.35(0.90) + 27c$
(B) $0.35(0.90 + 0.27c)$
(C) $0.35(0.90 + 9c)$
(D) $0.65(0.90 + 27c)$
(E) $0.65(0.90 + 0.30c)$



24. The figure above shows portions of two circles with centers at A and C, respectively, and square $ABCD$ with side of length s. What is the perimeter of the curved figure in terms of s?

(A) $\frac{4}{3}\pi s$ (B) $\frac{3}{2}\pi s$ (C) $2\pi s$
(D) $3\pi s$ (E) $4\pi s$



25. In the figure above, three wires are braided. That is, by starting in the order A, B, C, the outer left wire A is brought over wire B to the middle position forming the order shown in braid 1, then the outer right wire C is brought to the new middle position forming the order shown in braid 2, and so on, alternately bringing each new left and right wire to the middle. What is the number of the braid (not shown) that first repeats the original order A, B, C?

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

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. **STOP**

SECTION 5 Time—30 minutes 35 Questions

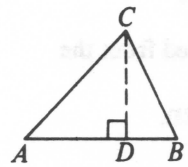
In this section solve each problem, using any available space on the page for scratchwork. Then decide which is the best of the choices given and fill in the corresponding oval on the answer sheet.

The following information is for your reference in solving some of the problems.

Circle of radius r: Area $= \pi r^2$; Circumference $= 2\pi r$
The number of degrees of arc in a circle is 360.
The measure in degrees of a straight angle is 180.

Definition of symbols:

$=$ is equal to	$\leqq$ is less than or equal to
$\neq$ is unequal to	$\geqq$ is greater than or equal to
$<$ is less than	$\parallel$ is parallel to
$>$ is greater than	$\perp$ is perpendicular to



Triangle: The sum of the measures in degrees of the angles of a triangle is 180.
If $\angle CDA$ is a right angle, then
(1) area of $\triangle ABC = \dfrac{AB \times CD}{2}$
(2) $AC^2 = AD^2 + DC^2$

Note: 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 its figure is not drawn to scale. All figures lie in a plane unless otherwise indicated. All numbers used are real numbers.

1. Of the following, which product is greatest?
(A) $22 \times 22 \times 222$
(B) $22 \times 22 \times 22$
(C) $2 \times 2 \times 22 \times 222$
(D) $2 \times 222 \times 22$
(E) $2 \times 2 \times 2 \times 2 \times 2 \times 2$

2. The following are coordinates of points in the XY-plane. Which of these points is nearest the origin?
(A) $(0, -1)$
(B) $\left(0, \frac{1}{2}\right)$
(C) $\left(\frac{1}{2}, -\frac{1}{2}\right)$
(D) $\left(\frac{1}{2}, \frac{1}{2}\right)$
(E) $(-1, -1)$

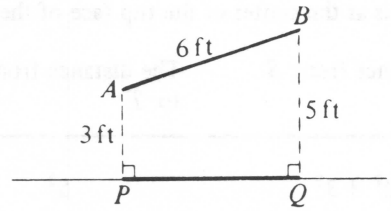
3. If 100 grams is half the mass of one object and twice the mass of another, the mass of the heavier object is how many grams more than the mass of the lighter object?
(A) 50
(B) 75
(C) 100
(D) 150
(E) 200

$A = \{3, 6, 9\}$
$B = \{5, 7, 9\}$
$C = \{7, 8, 9\}$

4. If three different numbers are selected, one from each of the sets shown above, what is the greatest sum that these three numbers could have?
(A) 22 (B) 23 (C) 24 (D) 25 (E) 27

5. How many different integer pairs (x, y) satisfy the equation $\frac{x}{y} = \frac{1}{2}$?
(A) One (B) Two (C) Three (D) Four
(E) More than four

6. If $3x + y = 18$ and x is an odd positive integer, which of the following must be true?
I. y is an odd integer.
II. y is a positive integer.
III. y is a multiple of 3.
(A) I only (B) II only (C) III only
(D) I and III (E) II and III



7. In the figure above, a straight stick AB casts a shadow PQ on a flat table. What is the length, in feet, of PQ?
(A) 4 (B) 4.5 (C) 5
(D) $3\sqrt{3}$ (E) $4\sqrt{2}$

GO ON TO THE NEXT PAGE

5

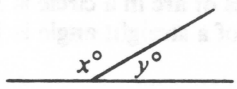
Questions 8-27 each consist of two quantities, one in Column A and one in Column B. You are to compare the two quantities and on the answer sheet fill in oval

A if the quantity in Column A is greater;
B if the quantity in Column B is greater;
C if the two quantities are equal;
D if the relationship cannot be determined from the information given.

AN E RESPONSE WILL NOT BE SCORED.

EXAMPLES

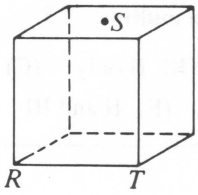
	Column A	Column B	Answers
E1.	2×6	$2 + 6$	● Ⓑ Ⓒ Ⓓ Ⓔ
E2.	$180 - x$	y	Ⓐ Ⓑ ● Ⓓ Ⓔ
E3.	$p - q$	$q - p$	Ⓐ Ⓑ Ⓒ ● Ⓔ



Notes:

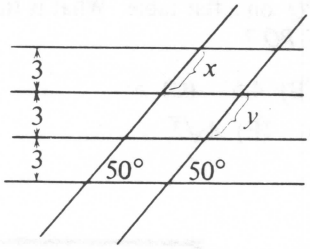
1. **In certain questions, information concerning one or both of the quantities to be compared is centered above the two columns.**
2. **In a given question, a symbol that appears in both columns represents the same thing in Column A as it does in Column B.**
3. **Letters such as x, n, and k stand for real numbers.**

	Column A	Column B
8.	$-2(-8)$	$-2 + (-8)$



Point S is at the center of the top face of the cube.

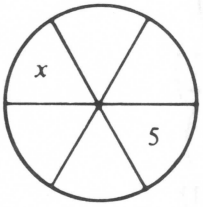
	Column A	Column B
9.	The distance from S to R	The distance from S to T
10.	$2^2 + 3^2$	5^2



Four parallel lines are intersected by two other lines.

	Column A	Column B
11.	$\frac{y}{x}$	$\frac{x}{y}$

	Column A	Column B
	7 less than $3x$ is 53.	
12.	x	18



Each of the six sectors in the circle above is assigned a number such that the sum of the numbers in any two sectors adjacent to each other is 9.

	Column A	Column B
13.	x	5

GO ON TO THE NEXT PAGE

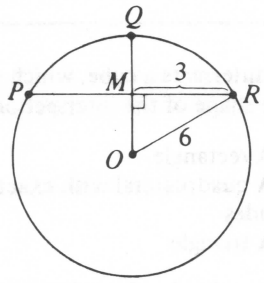
SUMMARY DIRECTIONS FOR COMPARISON QUESTIONS

Answer: A if the quantity in Column A is greater;
B if the quantity in Column B is greater;
C if the two quantities are equal;
D if the relationship cannot be determined from the information given.

AN E RESPONSE WILL NOT BE SCORED.

	Column A	Column B
	$y > x$ $y < -2$	
14.	x	0
15.	The result after rounding 2.481 to the nearest tenth	The result after rounding 2.493 to the nearest tenth
	The ratio of men to women in a room is $\frac{4}{5}$.	
16.	The total number of men and women in the room	9
	$n = 27$	
17.	The tens' digit of the product $10n$	5
	Let the operation ϕ have the property that $x \phi y = y \phi x$. $1 \phi 2 = 6$	
18.	$2 \phi 1$	7
	Rose has more money than Juanita, Juanita has less money than Sam, and Sam has less money than Rose.	
19.	Amount of money Rose has	The combined total of the amounts that Sam and Juanita have
	$(r + 6)(r + k) = r^2 + 9r + 18$	
20.	k	6
	In a bag containing exactly 200 marbles, 30 are white, 60 are black, and the remainder are red.	
21.	The percent of marbles in the bag that are red	60%

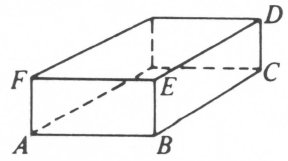
	Column A	Column B
	The perimeter of equilateral triangle T is equal to the perimeter of square S.	
22.	Length of a side of T	Length of a side of S
23.	$\frac{4.02}{0.2}$	$\frac{402}{20}$
	n is a positive integer and $n(n + 1)(n + 2) = 210$.	
24.	$n + 1$	7
	A box contains a number of discs each marked with a number less than 10. A disc is chosen without looking.	
25.	The probability of choosing a disc numbered 4 from the box	The probability of choosing a disc numbered 5 from the box



Note: Figure not drawn to scale.

P, Q, and R are points on the circle with center O. PR and OQ are line segments.

26.	The length of OM	The length of MQ



Note: Figure not drawn to scale.

The area of face $ABEF$ of the rectangular solid is 12 and the area of face $BCDE$ is 8.

27.	The volume of the rectangular solid	24

GO ON TO THE NEXT PAGE

Solve each of the remaining problems in this section using any available space for scratchwork. Then decide which is the best of the choices given and fill in the corresponding oval on the answer sheet.

28. Of the following, the least number is

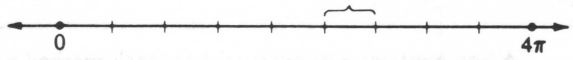
(A) $-\frac{1}{10}$ (B) $-\frac{1}{100}$ (C) $-\frac{11}{1{,}000}$

(D) $-\frac{1}{9}$ (E) $\frac{1}{1{,}000}$

29. What is the total value, in cents, of x coins worth 5 cents each and $x + 7$ coins worth 10 cents each?

(A) $15x + 70$ (B) $15x + 7$ (C) $10x + 75$

(D) $6x + 7$ (E) $2x + 7$



30. On the number line shown, the segment from 0 to 4π is divided into 9 intervals of equal length. Which of the following numbers would be in the sixth interval indicated above?

(A) $\frac{4\pi}{3}$ (B) $\frac{13\pi}{7}$ (C) 2π (D) $\frac{12\pi}{5}$ (E) 3π

31. If a plane intersects a cube, which of the following can be the shape of the intersection?

I. A rectangle
II. A quadrilateral with exactly two parallel sides
III. A triangle

(A) None (B) I only (C) III only

(D) I and II only (E) I, II, and III

32. If $(5.5 \times 10^2) \times (8.0 \times 10^3) = 4.4 \times 10^y$, then $y =$

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

33. If $\frac{x}{}$ represents the area of a semicircle with diameter x, then $\frac{2}{} + \frac{4}{} =$

(A) $\frac{3}{}$

(B) $\frac{5}{}$

(C) $\frac{3\sqrt{2}}{}$

(D) $\frac{2\sqrt{5}}{}$

(E) $\frac{6}{}$

34. Two partners divide a profit of \$3,000 so that the difference between the two amounts is $\frac{1}{3}$ of their average (arithmetic mean). What is the ratio of the larger to the smaller amount?

(A) 7:5 (B) 5:1 (C) 4:3

(D) 3:2 (E) 3:1

35. If $0 < p < r$ and if p is equal to $\frac{3}{10}$ of r, then r is what percent more than p?

(A) 30% (B) $33\frac{1}{3}\%$ (C) 70%

(D) 230% (E) $233\frac{1}{3}\%$

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. **STOP**

SECTION 6 Time—30 minutes 45 Questions

For each question in this section, choose the best answer and fill in the corresponding oval on the answer sheet.

Each question below consists of a word in capital letters, followed by five lettered words or phrases. Choose the word or phrase that is most nearly opposite in meaning to the word in capital letters. Since some of the questions require you to distinguish fine shades of meaning, consider all the choices before deciding which is best.

Example:

GOOD: (A) sour (B) bad (C) red (D) hot (E) ugly

Ⓐ ● Ⓒ Ⓓ Ⓔ

1. SUMMON: (A) link together (B) send away (C) remain calm (D) subtract (E) promote

2. HARMONY: (A) injustice (B) conflict (C) weakness (D) deception (E) omission

3. TRIVIA: (A) actual values (B) original sources (C) individual cases (D) expected results (E) important matters

4. FUSE: (A) destroy (B) burn (C) preserve (D) divide (E) scald

5. HEFTY: (A) wise (B) slight (C) cheerful (D) cooperative (E) indecisive

6. OPPORTUNE: (A) inappropriately timed (B) illegally transported (C) indefinite (D) invariable (E) incredible

7. FLUID: (A) dull (B) ruddy (C) jerky (D) drowsy (E) growing

8. ABBREVIATE: (A) foretell (B) protract (C) perfect (D) proceed (E) arrange

9. QUIESCENT: (A) secretive (B) active (C) mannerly (D) spiritual (E) miniature

10. DIMINUTION: (A) classification (B) escalation (C) brightness (D) separation (E) consciousness

11. EXCISE: (A) reply (B) clarify (C) illuminate (D) insert (E) comply

12. HIGH-HANDED: (A) thrifty (B) solemn (C) servile (D) eccentric (E) dishonest

13. CENSURE: (A) excite (B) repay (C) increase (D) expedite (E) praise

14. CIRCUMSPECT: (A) lonely (B) selfish (C) reckless (D) powerful (E) remorseful

15. PENURY: (A) haste (B) silence (C) enmity (D) apathy (E) opulence

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

Example:

Although its publicity has been ----, the film itself is intelligent, well-acted, handsomely produced, and altogether ----.

(A) tasteless..respectable (B) extensive..moderate (C) sophisticated..amateur (D) risqué..crude (E) perfect..spectacular

● Ⓑ Ⓒ Ⓓ Ⓔ

16. The government attempts to protect farm laborers from the ---- of pesticides through warning labels printed in several languages.

(A) uses (B) shock (C) degrees (D) dangers (E) crime

17. Investigation of the epidemic involved determining what was ---- about the people who were affected, what made them differ from those who remained well.

(A) chronic (B) unique (C) fortunate (D) misunderstood (E) historical

18. She announced that, because the company is financially hard-pressed, ---- at all levels is ----.

(A) austerity..urged
(B) paucity..avoidable
(C) bankruptcy..maintained
(D) luxury..predicted
(E) sacrifice..discouraged

19. We can never know what is ---- until we have tried without success to avoid it.

(A) futile (B) inevitable (C) fallacious (D) inconstant (E) expedient

20. Cunningham is no ----; on the contrary, there is a certain ---- in his acceptance of the political pieties of our time.

(A) rebel..defiance
(B) conformist..apathy
(C) zealot..complacency
(D) conservative..orderliness
(E) hypocrite..deceptiveness

GO ON TO THE NEXT PAGE

6

Each passage below is followed by questions based on its content. Answer the questions following each passage on the basis of what is stated or implied in that passage.

Benjamin Banneker, mathematician, astronomer, clockmaker, and surveyor, was born a free Black man in Maryland in 1731. Among Banneker's extraordinary accomplishments was a series of almanacs, the first of which he published in 1791. A study of his journal of astronomy and a comparison of his notes with his published almanacs provide a revealing documentation of how he taught himself astronomy. A reader who is willing to do some work can detect the occasional errors Banneker made and can also see how, in the laborious process of self-instruction, he was able to correct them.

An ephemeris, or astronomical almanac, is calculated from a series of basic computations required to establish the positions of the Sun, Moon, and planets each year; these computations then become the basis for other calculations. A comparison of Banneker's manuscript journal with his published ephemerides reveals his method. First, he had to make a reckoning of the calendar, one of the major preoccupations of the almanac-maker. He then entered the times of sunrise and sunset, and listed the important religious and noteworthy days of each month in an outline he had previously prepared. No basis can be identified for the method Banneker used for weather predictions, since no working notes or clues relating to them have survived. Before proceeding with the remainder of the calculations, Banneker customarily awaited the arrival of the new edition of the *Nautical Almanac*, from which he extracted some of his preliminary data.

The vast amount of work required to calculate an eclipse made Banneker's accomplishments all the more impressive. He had to make at least sixty-eight mathematical calculations to produce the ten elements required to construct a single eclipse diagram. Banneker learned to conserve his efforts by making constructions only for eclipses visible in the Baltimore-Washington area in which his almanacs would be sold. After all the eclipses for a particular year had been calculated, he drew and labeled each with a descriptive statement that would be inserted in the published almanac.

Before venturing to make his own calculations, a competent philomath must have mastered a good deal of the text of an authoritative writer on the subject, such as Ferguson or Leadbetter. Banneker had the work of both available to him. He suffered from an embarrassment of riches, however, because of the conflicting instructions occasionally presented by the two authors for the same type of computation.

The contents of Banneker's journal and notes are unique records of an eighteenth-century almanac-maker, as they provide a clear exposition of the method by which almanacs were calculated during this period of American scientific history.

21. Which of the following titles best summarizes the content of the passage?

(A) How to Calculate an Eclipse
(B) The History of Almanac-Making in America
(C) The Life and Work of Benjamin Banneker
(D) Benjamin Banneker's Influence on Eighteenth-Century Astronomy
(E) Astronomical Endeavors of Benjamin Banneker

22. According to the author, Banneker's technique for predicting weather was not described in the passage because

(A) weather predictions were not accurate in the eighteenth century
(B) weather conditions were not considered astronomical phenomena during Banneker's time
(C) no record remains of Banneker's method for predicting weather
(D) Banneker used other almanacs as the source of his information about the weather
(E) no weather predictions were included in Banneker's almanacs

23. According to the information in the passage, which of the following statements about Leadbetter and Ferguson is true?

(A) They were overrated as authorities on astronomy.
(B) They did not know about each other's work.
(C) They did not agree on certain matters of methodology.
(D) They were less meticulous in their calculations than was Banneker.
(E) They were more concerned with eclipses than with other aspects of astronomy.

24. Banneker's notes and journal would probably be particularly useful to a person interested in doing research on which of the following?

I. Scientific discoveries during the eighteenth century
II. The development of astronomy in the United States
III. Eighteenth-century almanacs

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

25. The author apparently regards Banneker's skills as an almanac-maker as

(A) extraordinary, because Banneker had no formal training in astronomy
(B) innovative, because Banneker adapted his work to the needs of a particular geographic region
(C) minimal, because Banneker sometimes relied on other almanacs
(D) amateurish, because of the errors Banneker made in his calculations
(E) commonplace, because many people in the eighteenth century made weather predictions

GO ON TO THE NEXT PAGE

But is there, as certain continental critics have insisted, an "American novel," a specific subvariety of the form? If we turn to these critics for a definition, we come on such terms as "neorealist," "hard-boiled," "naive," and "anti-traditional"–terms derived from a standard view of America as an "anticulture," an eternally maintained preserve of primitivism. This view (notoriously exemplified by André Gide) ends by finding in Dashiell Hammett the same values as in William Faulkner, and is more a symptom of European cultural malaise than a useful critical distinction. It is tempting to insist on the pat rebuttal that, far from being an anticulture, we are merely a branch of Western culture, and that there is no "American novel," only local variants of the standard European kinds of fiction: American sentimental, American gothic, American historical romance, etc. Certainly no single subgenre of the novel was invented in the United States. Yet the peculiarities of our variants seem more interesting and important than their resemblances to the parent forms.

There is a real sense in which our prose fiction is immediately distinguishable from that of Europe, though this is a fact that is difficult for Americans (oddly defensive and flustered in its presence) to confess. In this sense, our novels seem not primitive, perhaps, but innocent, unfallen in a disturbing way, almost juvenile. Many great works of American fiction are notoriously at home in the children's section of the library, their level of sentimentality precisely that of a preadolescent. That is part of what we mean when we talk about the incapacity of American novelists to develop; in a compulsive way they return to a limited world of experience, usually associated with childhood, writing the same books over and over again until they lapse into silence or self-parody.

Merely finding a language, learning to talk in a land where there are no conventions of conversation, no special class idioms, and no dialogue between classes, no continuing literary language–this exhausts American writers. They are forever beginning, saying for the first time (without real tradition there can never be a second time) what it is like to stand alone before nature, or in a city as appallingly lonely as any virgin forest. They face, moreover, another problem, which has resulted in a failure of feeling and imagination perceptible at the heart of even our most notable works. Our great novelists, though experts on indignity and assault, on loneliness and terror, tend to avoid treating the passionate encounter of a man and woman, which we expect at the center of a novel. Indeed they rather shy away from permitting in their fictions the presence of any full-fledged mature woman.

26. Which of the following questions is the author most interested in discussing in the passage?
    (A) Why do American writers reflect an "anti-culture"?
    (B) What are the unique characteristics of the American novel?
    (C) How is the American novel similar to the European novel?
    (D) Have European critics reacted favorably to American novels?
    (E) Which subgenres of the novel are most respected by American critics?

27. The author suggests which of the following about André Gide's criticism of the American novel?
    (A) It is based on a study of too few American novelists.
    (B) It includes a useful definition of the novel.
    (C) It is not typical of most continental critics.
    (D) It denies the differences between European and American novels.
    (E) It is a reflection of his background.

28. According to the author, which of the following topics is (are) often treated by American novelists?
    I. Adult passion
    II. Youthful experience
    III. Social class struggles
    (A) II only
    (B) I and II only
    (C) I and III only
    (D) II and III only
    (E) I, II, and III

29. According to the author, the American novelist is hampered by
    (A) a desire to imitate European writers
    (B) the structural demands of the novel form
    (C) an inability to portray dignified characters
    (D) the ignorance or antagonism of literary critics in America
    (E) a lack of distinct differences in speech patterns among American classes

30. Which of the following best describes the author's attitude toward American writers in the last sentence of the passage?
    (A) Boastful (B) Prudish (C) Pedantic
    (D) Nostalgic (E) Disparaging

GO ON TO THE NEXT PAGE

6

Select the word or set of words that best completes each of the following sentences.

31. Despite the efforts of conservationists to save the tiger, many biologists sadly agree that this ---- has probably come too late.

(A) prospect (B) problem (C) knowledge (D) concern (E) assessment

32. The ---- treatment necessitated by the study's broad geographical scope makes it ---- for the reader to understand thoroughly any particular African custom.

(A) superficial. .difficult
(B) purposeful. .superfluous
(C) scholarly. .imperative
(D) supplementary. .rewarding
(E) eloquent. .critical

33. Overindulgence, fatigue, and worry are the three ---- of civilization that probably do most to ---- the natural defenses of the body.

(A) products. .sustain (B) enemies. .influence (C) victims. .damage (D) delinquents. .exploit (E) concomitants. .undermine

34. Most people will struggle mightily to stop change, or at least to ---- its effects on them.

(A) enhance (B) initiate (C) distort (D) defend (E) mitigate

35. Cut adrift from the structured authority ---- the whole ritual of grading and certification, certain faculty members saw the new program as a monumental ---- in which nothing was any longer considered sacred.

(A) afforded by. .heresy
(B) counteracted by. .fantasy
(C) anchored to. .preservation
(D) relieved by. .hoax
(E) attributed to. .relic

Each question below consists of a related pair of words or phrases, followed by five lettered pairs of words or phrases. Select the lettered pair that best expresses a relationship similar to that expressed in the original pair.

Example:

YAWN : BOREDOM :: (A) dream : sleep (B) anger : madness (C) smile : amusement (D) face : expression (E) impatience : rebellion

Ⓐ Ⓑ ● Ⓓ Ⓔ

36. ICE PACK : SWELLING :: (A) magnet : attraction (B) tourniquet : bleeding (C) bulb : illumination (D) thermometer : fever (E) funnel : pouring

37. NOVELIST : FICTION :: (A) detective : crime (B) carpenter : lumber (C) aggression : dominance (D) composer : music (E) book : pages

38. ILLOGICAL : CONFUSION ::
(A) profound : laughter
(B) revolting : sympathy
(C) astounding : amazement
(D) obscure : contrast
(E) deliberate : vitality

39. THIMBLE : FINGER :: (A) apron : clothes (B) ruler : line (C) bracelet : ring (D) saw : wood (E) needle : thread

40. SHORTHAND : RAPIDITY :: (A) typing : diligence (B) stenography : aptitude (C) art : simplicity (D) paper : penmanship (E) code : secrecy

41. DOODLE : DRAW :: (A) coddle : pamper (B) meddle : interfere (C) waddle : run (D) prattle : talk (E) protest : argue

42. CLOSEFISTED : SKINFLINT ::
(A) inane : scapegoat (B) immoral : daredevil (C) impetuous : hothead (D) irresolute : spitfire (E) inarticulate : busybody

43. VOLATILE : VAPORIZED ::
(A) oily : dried (B) edible : wilted (C) concave : curved (D) diverse : concentrated (E) combustible : ignited

44. CONTRACTION : LETTER ::
(A) period : sentence
(B) retraction : complaint
(C) explanation : understanding
(D) ellipsis : word
(E) compromise : agreement

45. DELETERIOUS : HARM ::
(A) menacing : tranquillity (B) voluntary : coercion (C) suspicious : guilt (D) wearisome : fatigue (E) meritorious : wealth

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.

STOP

Correct Answers for Scholastic Aptitude Test
Form Code 5X

VERBAL		MATHEMATICAL	
Section 1	**Section 6**	**Section 3**	**Section 5**
1. A	1. B	1. B	1. A
2. C	2. B	2. D	2. B
3. B	3. E	3. B	3. D
4. C	4. D	4. E	4. C
5. B	5. B	5. D	5. E
6. D	6. A	6. B	6. D
7. D	7. C	7. A	7. E
8. D	8. B	8. B	*8. A
9. E	9. B	9. D	*9. C
10. A	10. B	10. A	*10. B
11. B	11. D	11. E	*11. C
12. C	12. C	12. A	*12. A
13. C	13. E	13. C	*13. B
14. E	14. C	14. A	*14. B
15. C	15. E	15. E	*15. C
16. D	16. D	16. C	*16. D
17. D	17. B	17. C	*17. A
18. E	18. A	18. E	*18. B
19. E	19. B	19. B	*19. D
20. E	20. C	20. C	*20. B
21. B	21. E	21. A	*21. B
22. B	22. C	22. B	*22. A
23. C	23. C	23. B	*23. C
24. A	24. E	24. D	*24. B
25. E	25. A	25. D	*25. D
26. C	26. B		*26. A
27. E	27. E		*27. D
28. D	28. A		28. D
29. D	29. E		29. A
30. A	30. E		30. D
31. D	31. D		31. E
32. B	32. A		32. E
33. C	33. E		33. D
34. E	34. E		34. A
35. B	35. A		35. E
36. B	36. B		
37. B	37. D		
38. E	38. C		
39. A	39. A		
40. D	40. E		
	41. D		
	42. C		
	43. E		
	44. D		
	45. D		

*Indicates four-choice questions. (All of the other questions are five-choice.)

The Scoring Process

Machine-scoring is done in three steps:

- *Scanning.* Your answer sheet is "read" by a scanning machine and the oval you filled in for each question is recorded on a computer tape.
- *Scoring.* The computer compares the oval filled in for each question with the correct response. Each correct answer receives one point; omitted questions do not count toward your score. For each wrong answer, a fraction of a point is subtracted to correct for random guessing. For questions with five answer choices, one-fourth of a point is subtracted for each wrong response; for questions with four answer choices, one-third of a point is subtracted for each wrong response. The SAT-verbal test has 85 questions with five answer choices each. If, for example, a student has 44 right, 32 wrong, and 9 omitted, the resulting raw score is determined as follows:

$$44 \text{ right} - \frac{32 \text{ wrong}}{4} = 44 - 8 = 36 \text{ raw score points}$$

  Obtaining raw scores frequently involves the rounding of fractional numbers 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.

- *Converting to reported scaled score.* Raw test scores are then placed on the College Board scale of 200 to 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 nor 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-verbal score of 400 on a test taken at one administration indicates the same level of developed verbal ability as a 400 score obtained on a different edition of the test taken at another time.

How to Score the Test

SAT-Verbal Sections 1 and 6

Step A: Count the number of correct answers for *section 1* and record the number in the space provided on the worksheet on the next page. Then do the same for the incorrect answers. (Do not count omitted answers.) To determine subtotal A, use the formula:

$$\text{number correct} - \frac{\text{number incorrect}}{4} = \text{subtotal A}$$

Step B: Count the number of correct answers and the number of incorrect answers for *section 6* and record the numbers in the spaces provided on the worksheet. To determine subtotal B, use the formula:

$$\text{number correct} - \frac{\text{number incorrect}}{4} = \text{subtotal B}$$

Step C: To obtain C, add subtotal A to subtotal B, keeping any decimals. Enter the resulting figure on the worksheet.

Step D: To obtain D, your raw verbal score, round C to the nearest whole number. (For example, any number from 44.50 to 45.49 rounds to 45.) Enter the resulting figure on the worksheet.

Step E: To find your reported SAT-verbal score, look up the total raw verbal score you obtained in step D in the conversion table on page 166. Enter this figure on the worksheet.

SAT-Mathematical Sections 3 and 5

Step A: Count the number of correct answers and the number of incorrect answers for *section 3* and record the numbers in the spaces provided on the worksheet. To determine the subtotal A, use the formula:

$$\text{number correct} - \frac{\text{number incorrect}}{4} = \text{subtotal A}$$

Step B: Count the number of correct answers and the number of incorrect answers for the *five-choice questions (questions 1 through 7 and 28 through 35) in section 5* and record the numbers in the spaces provided on the worksheet. To determine the subtotal B, use the formula:

$$\text{number correct} - \frac{\text{number incorrect}}{4} = \text{subtotal B}$$

Step C: Count the number of correct answers and the number of incorrect answers for the *four-choice questions (questions 8 through 27) in section 5* and record the numbers in the spaces provided on the worksheet. To determine the subtotal C, use the formula:

$$\text{number correct} - \frac{\text{number incorrect}}{3} = \text{subtotal C}$$

Step D: To obtain D, add subtotal A, subtotal B, and subtotal C, keeping any decimals. Enter the resulting figure on the worksheet.

Step E: To obtain E, your raw mathematical score, round D to the nearest whole number. (For example, any number from 44.50 to 45.49 rounds to 45.) Enter the resulting figure on the worksheet.

Step F: To find your reported SAT-mathematical score, look up the total raw mathematical score you obtained in E in the conversion table on page 166. Enter this figure on the worksheet.

SAT SCORING WORKSHEET

SAT-Verbal Sections

A. Section 1: _____ no. correct − ¼ (_____ no. incorrect) = _____ subtotal A

B. Section 6: _____ no. correct − ¼ (_____ no. incorrect) = _____ subtotal B

C. Total unrounded raw score (Total A + B) _____ C

D. Total rounded raw score (Rounded to nearest whole number) _____ D

E. SAT-verbal reported scaled score (See the conversion table on page 166.) [ ] SAT-verbal score

SAT-Mathematical Sections

A. Section 3: _____ no. correct − ¼ (_____ no. incorrect) = _____ subtotal A

B. Section 5: Questions 1 through 7 and 28 through 35 (5-choice) _____ no. correct − ¼ (_____ no. incorrect) = _____ subtotal B

C. Section 5: Questions 8 through 27 (4-choice) _____ no. correct − ⅓ (_____ no. incorrect) = _____ subtotal C

D. Total unrounded raw score (Total A + B + C) _____ D

E. Total rounded raw score (Rounded to nearest whole number) _____ E

F. SAT-mathematical reported scaled score (See the conversion table on page 166.) [ ] SAT-math score

Score Conversion Table
Scholastic Aptitude Test
Form Code 5X

Raw Score	College Board Reported Score		Raw Score	College Board Reported Score	
	SAT-Verbal	SAT-Math		SAT-Verbal	SAT-Math
85	800		40	460	620
84	780		39	460	610
83	770		38	450	600
82	760		37	440	590
81	750		36	440	580
80	740		35	430	570
79	730		34	430	560
78	720		33	420	550
77	710		32	410	540
76	700		31	410	530
75	690		30	400	520
74	680		29	390	510
73	670		28	390	500
72	660		27	380	490
71	650		26	370	490
70	640		25	370	480
69	630		24	360	470
68	630		23	350	460
67	620		22	350	450
66	610		21	340	440
65	610		20	330	430
64	600		19	330	420
63	600		18	320	410
62	590		17	310	410
61	580		16	310	400
60	580	800	15	300	390
59	570	790	14	300	380
58	570	780	13	290	370
57	560	770	12	280	370
56	560	760	11	280	360
55	550	750	10	270	350
54	540	740	9	270	340
53	540	730	8	260	330
52	530	720	7	250	330
51	530	710	6	250	320
50	520	700	5	240	310
49	520	700	4	230	300
48	510	690	3	230	290
47	500	680	2	220	290
46	500	670	1	210	280
45	490	660	0	200	270
44	490	650	–1	200	260
43	480	640	–2	200	250
42	480	630	–3	200	240
41	470	620	–4	200	230
			–5	200	230
			–6	200	220
			–7	200	210
			–8 or below	200	200