Answer Sheet for Practice Test 4

SECTION 1

Begin your essay on this page. If you need more space, continue on the next page. Do not write outside of the essay box.

Continue on the next page if necessary.

Continuation of ESSAY Section 1 from previous page. Write below only if you need more space.

Start with number 1 for each new section. If a section has fewer questions than answer spaces, leave the extra answer spaces blank. Be sure to erase any errors or stray marks completely.

SECTION 2

1 (A) (B) (C) (D) (E)	11 (A) (B) (C) (D) (E)	21 (A) (B) (C) (D) (E)	31 (A) (B) (C) (D) (E)
2 (A) (B) (C) (D) (E)	12 (A) (B) (C) (D) (E)	22 (A) (B) (C) (D) (E)	32 (A) (B) (C) (D) (E)
3 (A) (B) (C) (D) (E)	13 (A) (B) (C) (D) (E)	23 (A) (B) (C) (D) (E)	33 (A) (B) (C) (D) (E)
4 (A) (B) (C) (D) (E)	14 (A) (B) (C) (D) (E)	24 (A) (B) (C) (D) (E)	34 (A) (B) (C) (D) (E)
5 (A) (B) (C) (D) (E)	15 (A) (B) (C) (D) (E)	25 (A) (B) (C) (D) (E)	35 (A) (B) (C) (D) (E)
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CAUTION Use the answer spaces in the grids below for Section 2 or Section 3 only if you are told to do so in your test book.

Student-Produced Responses ONLY ANSWERS ENTERED IN THE CIRCLES IN EACH GRID WILL BE SCORED. YOU WILL NOT RECEIVE CREDIT FOR ANYTHING WRITTEN IN THE BOXES ABOVE THE CIRCLES.

9 10 11 12 13

14 15 16 17 18

Start with number 1 for each new section. If a section has fewer questions than answer spaces, leave the extra answer spaces blank. Be sure to erase any errors or stray marks completely.

SECTION 4

1 A B C D E	11 A B C D E	21 A B C D E	31 A B C D E
2 A B C D E	12 A B C D E	22 A B C D E	32 A B C D E
3 A B C D E	13 A B C D E	23 A B C D E	33 A B C D E
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9 A B C D E	19 A B C D E	29 A B C D E	39 A B C D E
10 A B C D E	20 A B C D E	30 A B C D E	40 A B C D E

SECTION 5

1 A B C D E	11 A B C D E	21 A B C D E	31 A B C D E
2 A B C D E	12 A B C D E	22 A B C D E	32 A B C D E
3 A B C D E	13 A B C D E	23 A B C D E	33 A B C D E
4 A B C D E	14 A B C D E	24 A B C D E	34 A B C D E
5 A B C D E	15 A B C D E	25 A B C D E	35 A B C D E
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CAUTION Use the answer spaces in the grids below for Section 4 or Section 5 only if you are told to do so in your test book.

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SECTION 6

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SECTION 7

1 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	11 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	21 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	31 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
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SECTION 8

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SECTION 9

1 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	11 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	21 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	31 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
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SECTION 10

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2 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	12 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	22 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	32 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
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SAT PRACTICE TEST 4

SECTION 1

Time: 25 Minutes—Turn to page 860 of your answer sheet to write your ESSAY.

The purpose of the essay is to have you show how well you can express and develop your ideas. You should develop your point of view, logically and clearly present your ideas, and use language accurately.

You should write your essay on the lines provided on your answer sheet. You should not write on any other paper. You will have enough space if you write on every line and if you keep your handwriting to a reasonable size. Make sure that your handwriting is legible to other readers.

You will have 25 minutes to write an essay on the assignment below. *Do not write on any other topic. If you do so, you will receive a score of 0.*

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

> The most exciting thing we can experience is the mysterious. It is the fundamental emotion which stands at the cradle of true art and true science. He who does not know it and can no longer wonder, no longer feel amazement, is as good as dead, a snuffed-out candle.
>
> —Adapted from Albert Einstein, "What I Believe."

Assignment: In which ways have you experienced "the mysterious" and how has that made you feel alive and excited about life? Based on your experience or experiences, discuss how the above quote rings true and how science or art illustrates the "mysterious."

DO NOT WRITE YOUR ESSAY IN YOUR TEST BOOK. You will receive credit only for what you write on your answer sheet.

BEGIN WRITING YOUR ESSAY ON PAGE 860 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

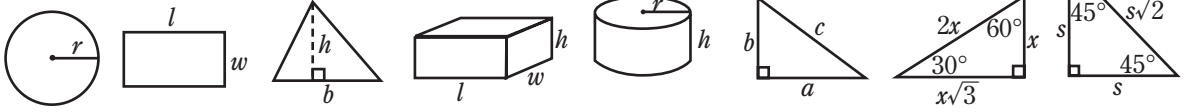
Time: 25 Minutes—Turn to Section 2 (page 862) of your answer sheet to answer the questions in this section.
20 Questions

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 scratchwork.

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



$A = \pi r^2$ $A = lw$ $A = \frac{1}{2}bh$ $V = lwh$ $V = \pi r^2 h$ $c^2 = a^2 + b^2$ *Special Right Triangles*

$C = 2\pi r$

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. What is another expression for 8 less than the quotient of x and 3?

(A) $\frac{x-8}{3}$
(B) $\frac{x}{3} - 8$
(C) $8 - 3x$
(D) $3x - 8$
(E) $3(8 - x)$

2. Each of Phil's buckets has a capacity of 11 gallons. Each of Mark's buckets can hold 8 gallons. How much more water, in gallons, can 7 of Phil's buckets hold than 7 of Mark's buckets?

(A) 3
(B) 7
(C) 21
(D) 24
(E) 56

GO ON TO THE NEXT PAGE

3. Which of the following is equal to $\frac{|x|}{|y|}$ for all real numbers x and y?

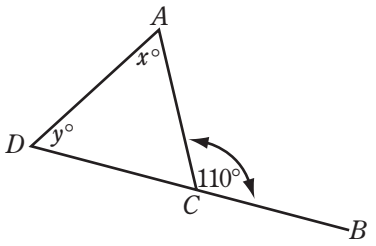
(A) $\frac{x}{y}$

(B) $\frac{|x|}{y}$

(C) $\frac{x}{|y|}$

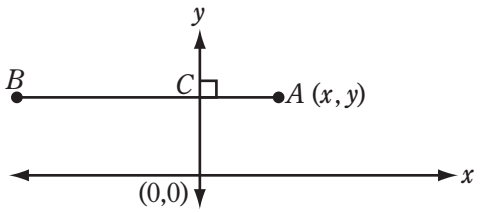
(D) $\left|\frac{x}{y}\right|$

(E) $-\left|\frac{x}{y}\right|$



5. In the figure above, $m\angle ACB = 110°$ and $AC = CD$. What is the value of $2y$?

(A) 45
(B) 70
(C) 90
(D) 110
(E) 140



4. If $3AC = BC$ in the figure above, what are the coordinates of B?

(A) $(x, 3y)$
(B) $(-x, 3y)$
(C) $(3x, y)$
(D) $(-3x, y)$
(E) $(-3x, 3y)$

6. If $(x + y)^2 = 9$, what is $x + y$?

(A) 0
(B) 3
(C) 9
(D) 27
(E) The answer cannot be determined from the information given.

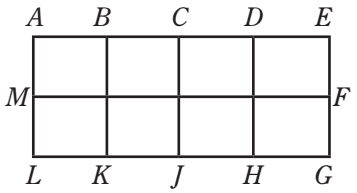
GO ON TO THE NEXT PAGE

7. The average (arithmetic mean) of five numbers is 34. If three of the numbers are 28, 30, and 32, what is the sum of the other two?

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

9. For any positive integer, x, $\textcircled{x} = \frac{x^2}{3}$ and $\boxed{x} = \frac{9}{x}$. What is an expression for $\textcircled{x} \times \boxed{x}$?

(A) $3x$
(B) x
(C) 1
(D) $\frac{x^3}{64}$
(E) $27x^3$



8. In the figure above, rectangle $AEGL$ has been divided into 8 congruent squares. If the perimeter of one of these squares is 16, what is the value of $AE + MF + LG + AL + BK + CJ + DH + EG$?

(A) 32
(B) 44
(C) 88
(D) 128
(E) 176

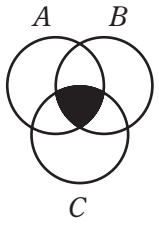
10. If each of the 3 distinct points A, B, and C are the same distance from point D, which of the following could be true?

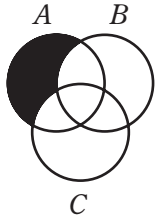
I. A, B, C, and D are the four vertices of a square.
II. A, B, C, and D lie on the circumference of a circle.
III. A, B, and C lie on the circumference of the circle whose center is D.

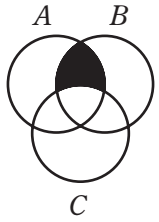
(A) I only
(B) II only
(C) III only
(D) II and III only
(E) I, II, and III

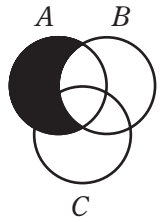
GO ON TO THE NEXT PAGE

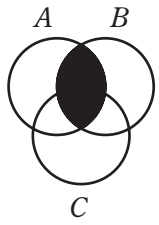
11. Of the following five diagrams below, which diagram describes the dark region as the set of elements that belongs to all of the sets A, B, and C?

(A)


(B)


(C)


(D)


(E)


12. If the points (1,3), (3,5), and (6,y) all lie on the same line, the value of y is

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

13. In a certain small town, p gallons of gasoline are needed per month for each car in town. At this rate, if there are r cars in town, how long, in months, will q gallons last?

(A) $\frac{pq}{r}$
(B) $\frac{qr}{p}$
(C) $\frac{r}{pq}$
(D) $\frac{q}{pr}$
(E) pqr

GO ON TO THE NEXT PAGE

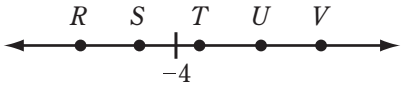
Questions 14–15

The next two questions refer to the following definition:

The *l*-length of the segment from point A to point B is $B - A$.

14. What is the *l*-length from -3 to 3?

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

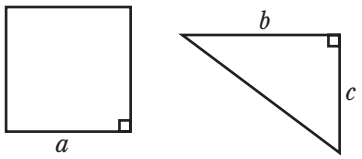


15. Of all segments beginning at -4 and ending at one of the integers indicated above on the number line, which segment has the *least* *l*-length?

(A) From -4 to R
(B) From -4 to S
(C) From -4 to T
(D) From -4 to U
(E) From -4 to V

16. If the sum of 5 consecutive positive integers is w, in terms of w, which of the following represents the sum of the next 5 consecutive positive integers?

(A) $w + 5$
(B) $5w + 5$
(C) $5w + 25$
(D) $w + 25$
(E) $w^2 + 25$



17. If the area of the square is twice the area of the triangle and $bc = 100$, then find a^2.

(A) 400
(B) 200
(C) 100
(D) 50
(E) 25

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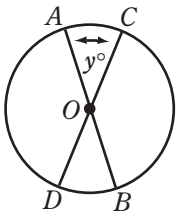


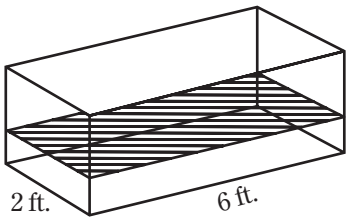
Note: Figure is not drawn to scale

18. In the figure above, $\overline{AB}$ and $\overline{CD}$ are diameters of the circle whose center is O. If the radius of the circle is 2 inches and the sum of the lengths of arcs $\overset{\frown}{AD}$ and $\overset{\frown}{BC}$ is 3π inches, then $y =$

(A) 45
(B) 60
(C) 75
(D) 90
(E) 120

19. Five years ago, Ross was N times as old as Amanda was. If Amanda is now 19 years old, how old is Ross now in terms of N?

(A) $14N - 5$
(B) $14N + 5$
(C) $19N + 5$
(D) $15N + 5$
(E) $19N - 5$



20. The figure above shows water in a tank whose base is 2 feet by 6 feet. If a rectangular solid whose dimensions are 1 foot by 1 foot by 2 feet is totally immersed in the water, how many *inches* will the water rise?

(A) $\frac{1}{6}$
(B) 1
(C) 2
(D) 3
(E) 12

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.

Take a 5 minute break

before starting section 3

SECTION 3

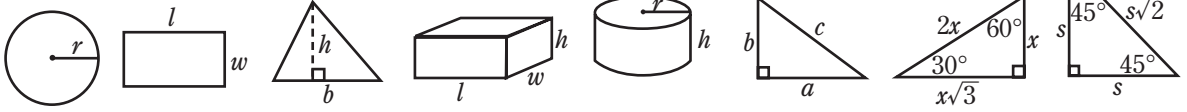
Time: 25 Minutes—Turn to Section 3 (page 862) of your answer sheet to answer the questions in this section.
18 Questions

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 scratchwork.

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



$A = \pi r^2$ $A = lw$ $A = \frac{1}{2}bh$ $V = lwh$ $V = \pi r^2 h$ $c^2 = a^2 + b^2$ *Special Right Triangles*
$C = 2\pi r$

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 $x + by = 3x + y = 5$ and $y = 2$, then $b =$

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

2. There are 2 boys and 3 girls in the class. The ratio of boys to girls in the class is equal to all of the following *except*

(A) 4 : 6
(B) 9 : 12
(C) 6 : 9
(D) 12 : 18
(E) 18 : 27

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3. What fraction of 1 week is 24 min?

(A) $\frac{1}{60}$
(B) $\frac{1}{168}$
(C) $\frac{1}{420}$
(D) $\frac{1}{1{,}440}$
(E) $\frac{1}{10{,}080}$

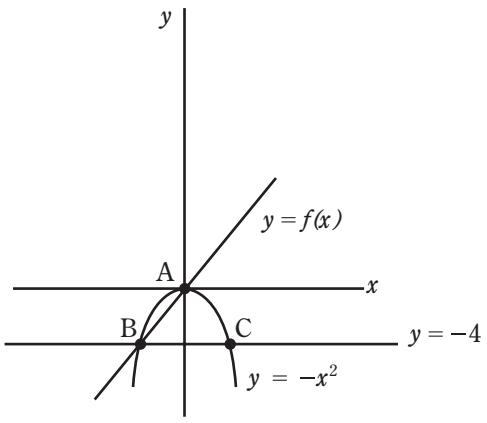
4. $2 \times 10^{-5} \times 8 \times 10^{2} \times 5 \times 10^{2} =$

(A) .00008
(B) .008
(C) .08
(D) 8
(E) 800

5. Jaxon spent $\frac{2}{5}$ of his allowance on candy and $\frac{5}{6}$ of the remainder on ice cream. If his allowance is \$30, how much money did he have left after buying the candy and ice cream?

(A) \$1
(B) \$2
(C) \$3
(D) \$5
(E) \$10

Questions 6–7 refer to the following diagram:



6. The x-coordinate of point B is

(A) −2
(B) −3
(C) −4
(D) −5
(E) −6

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7. The graph of the equation $y = f(x)$ is of the form $y = mx + b$, where b is

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

8. At how many points does the graph of the equation $y = x^4 + x^3$ intersect the x-axis?

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

GO ON TO THE NEXT PAGE

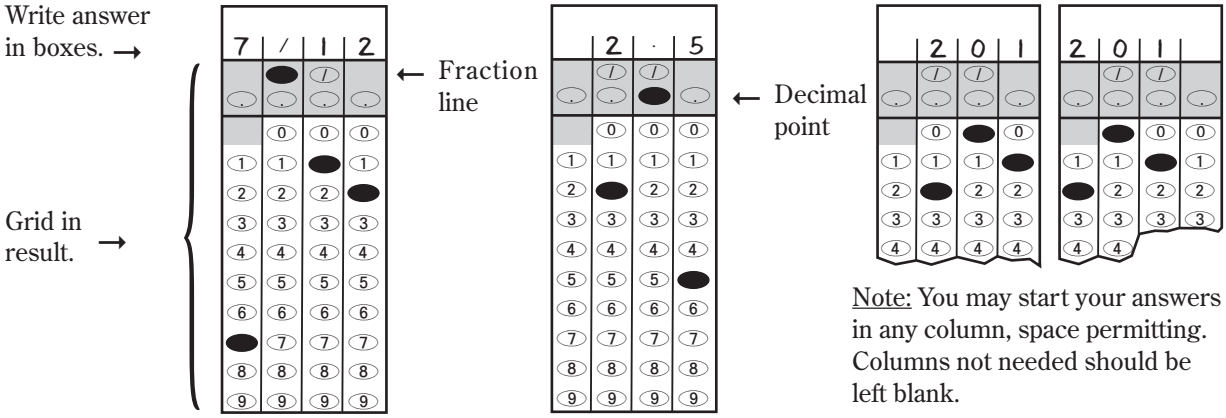
Directions: For Student-Produced Response questions 9–18, use the grids at the bottom of the answer sheet page on which you have answered questions 1–8.

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 scratchwork.

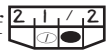
Answer: $\frac{7}{12}$ or 7/12

Answer: 2.5

Answer: 201
Either position is correct.

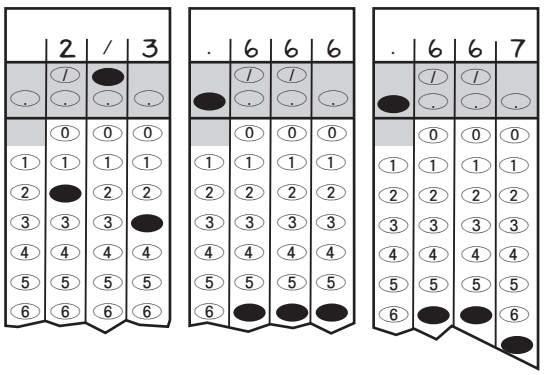


Note: You may start your answers in any column, space permitting. Columns not needed should be left blank.

- Mark no more than one oval in any column.
- Because the answer sheet will be machine-scored, **you will receive credit only if the ovals 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 ovals 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 $2\frac{1}{2}$ must be gridded as 2.5 or 5/2. (If  is gridded, it will be interpreted as $\frac{21}{2}$, not $2\frac{1}{2}$.)

- Decimal Accuracy: If you obtain a decimal answer, **enter the most accurate value the grid will accommodate.** For example, if you obtain an answer such as 0.6666…, you should record the result as .666 or .667. **Less accurate values such as .66 or .67 are not acceptable.**

  Acceptable ways to grid $\frac{2}{3}$ = .6666…:



9. If $\frac{5}{8}$ of x is 40, then find the value of $\frac{3}{8}$ of x.

10. A piece of wire is bent to form a circle of radius 3 feet. How many pieces of wire, each 2 feet long, can be made from the wire?

11. Ana spent \$7 in order to buy baseballs and tennis balls. If baseballs are 70¢ each and tennis balls are 60¢ each, what is the greatest possible number of tennis balls that Ana could have bought?

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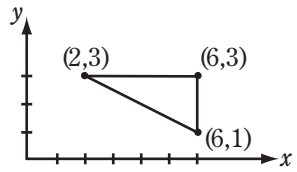
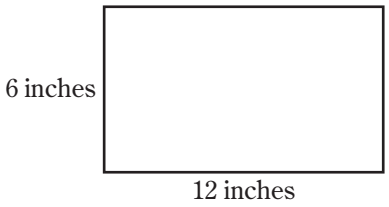
12. Let $f(x)$ be defined for all x by the equation $f(x) = 12x + 8$. Thus, $f(2) = 32$. If $f(x) \div f(0) = 2x$, then find the value of x.

ABA	*BBB*	*CBA*	*BBA*
ACC	*CBC*	*CCC*	*ACA*
BAC	*ABC*	*BCA*	*CAB*
CBB	*BCA*	*AAB*	*ACC*

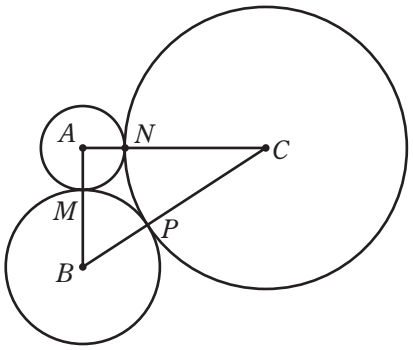
13. In the triple arrangement of letters above, a triple has a value of 1 if exactly 2 of the letters in the triple are the same. Any other combination has a value of 0. The value of the entire arrangement is the sum of the values of each of the triples. What is the value of the above arrangement?



14. In the figure above, what is the area of the triangle?

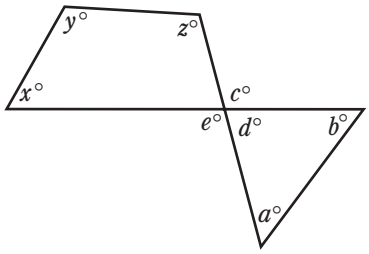


15. How many squares with 2-inch sides can be placed, without overlapping, into the rectangle shown above?



16. The circles having their centers at *A, B,* and *C* have radii of 1, 2, and 3, respectively. The circles are tangent at points *M, N,* and *P* as shown above. What is the product of the lengths of the sides of the triangle?

17. If the average (arithmetic mean) of 4 numbers is 8,000 and the average (arithmetic mean) of 3 of the 4 numbers is 7,500, then what must the fourth number be?



18. Five line segments intersect to form the figure above. What is the value of $x + y + z$ if $c = 100$?

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—Turn to Section 4 (page 863) of your answer sheet to answer the questions in this section.
24 Questions

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

Ⓐ Ⓑ Ⓒ Ⓓ ●

1. In a rising tide of _____ in public education, Ms. Anderson was an example of an informed and _____ teacher—a blessing to children and an asset to the nation.

   (A) compromise…inept
   (B) pacifism…inspiring
   (C) ambiguity…average
   (D) mediocrity…dedicated
   (E) oblivion…typical

2. It is _____ that primitive man considered eclipses to be _____ .

   (A) foretold…spectacular
   (B) impossible…ominous
   (C) understandable…magical
   (D) true…rational
   (E) glaring…desirable

3. By _____ the conversation, the girl had once again proved that she had overcome her shyness.

   (A) appreciating
   (B) recognizing
   (C) hearing
   (D) initiating
   (E) considering

4. Only an authority in that area would be able to _____ such highly _____ subject matter included in the book.

   (A) understand…general
   (B) confuse…simple
   (C) read…useless
   (D) comprehend…complex
   (E) misconstrue…sophisticated

5. The professor displayed extreme stubbornness; not only did he _____ the logic of the student's argument, but he _____ to acknowledge that the textbook conclusion was correct.

   (A) amplify…hesitated
   (B) reject…refused
   (C) clarify…consented
   (D) justify…expected
   (E) ridicule…proposed

6. The _____ of the explorers was reflected in their refusal to give up.

   (A) tenacity
   (B) degradation
   (C) greed
   (D) harassment
   (E) sociability

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7. Ironically, the protest held in order to strengthen the labor movement served to _____ it.

(A) justify
(B) coddle
(C) weaken
(D) invigorate
(E) appease

8. In spite of David's tremendous intelligence, he was frequently _____ when confronted with practical matters.

(A) coherent
(B) baffled
(C) cautious
(D) philosophical
(E) pensive

GO ON TO THE NEXT PAGE

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.

In the South American rain forest abide the greatest acrobats on earth. The monkeys of the Old World, agile as they are, cannot hang by their tails. It is only the monkeys of America that possess this skill. They are called ceboids and their unique group includes marmosets, owl monkeys, sakis, spider monkeys, squirrel monkeys and howlers. Among these the star gymnast is the skinny, intelligent spider monkey. Hanging head down like a trapeze artist from the loop of a liana, he may suddenly give a short swing, launch himself into space and, soaring outward and downward across a 50-foot void of air, lightly catch a bough on which he spied a shining berry. Owl monkeys cannot match his leap, for their arms are shorter, their tails untalented. The marmosets, smallest of the tribe, tough noisy hoodlums that travel in gangs, are also capable of leaps into space, but their landings are rough: smack against a tree trunk with arms and legs spread wide.

9. Which of the following titles best expresses the ideas of this selection?

(A) The Star Gymnast
(B) Monkeys and Trees
(C) Travelers in Space
(D) The Uniqueness of Monkeys
(E) Ceboid Acrobats

10. Compared to monkeys of the Old World, American monkeys are

(A) smaller
(B) quieter
(C) more dexterous
(D) more protective of their young
(E) less at home in their surroundings

Questions 11–12 are based on the following passage.

A critic of politics finds himself driven to deprecate the power of words while using them copiously in warning against their influence. It is indeed in politics that their influence is most dangerous, so that one is almost tempted to wish that they did not exist, and that society might be managed silently, by instinct, habit, and ocular perception, without this supervening Babel of reports, arguments, and slogans.

11. The author implies that critics of misused language

(A) become fanatical on this subject
(B) are guilty of what they criticize in others
(C) are clever in contriving slogans
(D) tell the story of the Tower of Babel
(E) rely too strongly on instincts

12. Which statement is true according to the passage?

(A) Critics of politics are often driven to take desperate measures.
(B) Words, when used by politicians, have the greatest capacity for harm.
(C) Politicians talk more than other people.
(D) Society would be better managed if mutes were in charge.
(E) Reports and slogans are not to be trusted.

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Questions 13–24 are based on the following passage.

The following passage deals with the importance of castles in medieval Europe and how they affected the society at that time.

Medieval Europe abounded in castles. Germany alone had ten thousand and more, most of them now vanished; all that a summer journey in the Rhineland and the southwest now can show are a handful of ruins and a few nineteenth century restorations. Nevertheless, anyone journeying from Spain to the Dvina, from Calabria to Wales, will find castles rearing up again and again to dominate the open landscape. There they still stand, in desolate and uninhabited districts where the only visible forms of life are herdsmen and their flocks, with hawks circling the battlements, far from the traffic and comfortably distant even from the nearest small town: these were the strongholds of the European aristocracy.

The weight of aristocratic dominance was felt in Europe until well after the French Revolution; political and social structure, the Church, the general tenor of thought and feeling were all influenced by it. Over the centuries, consciously or unconsciously, the other classes of this older European society—the clergy, the bourgeoisie and the "common people"—adopted many of the outward characteristics of the aristocracy, who became their model, their standard, their ideal. Aristocratic values and ambitions were adopted alongside aristocratic manners and fashions of dress. Yet the aristocracy were the object of much contentious criticism and complaint; from the thirteenth century onwards their military value and their political importance were both called in question. Nevertheless, their opponents continued to be their principal imitators. In the eleventh and twelfth centuries, the reforming Papacy and its clerical supporters, although opposed to the excessively aristocratic control of the Church (as is shown by the Investiture Contest), nevertheless themselves first adopted and then strengthened the forms of this control. Noblemen who became bishops or who founded new Orders helped to implant aristocratic principles and forms of government deep within the structure and spiritual life of the Church. Again, in the twelfth and thirteenth centuries the urban bourgeoisie, made prosperous and even rich by trade and industry, were rising to political power as the servants and legal proteges of monarchy. These "patricians" were critical of the aristocracy and hostile towards it. Yet they also imitated the aristocracy, and tried to gain admittance to the closed circle and to achieve equality of status. Even the unarmed peasantry, who usually had to suffer more from the unrelieved weight of aristocratic dominance, long remained tenaciously loyal to their lords, held to their allegiance by that combination of love and fear, *amor et timor*, which was so characteristic of the medieval relationship between lord and servant, between God and man.

The castles and strongholds of the aristocracy remind us of the reality of their power and superiority. Through the long warring centuries when men went defenseless and insecure, the "house," the lord's fortified dwelling, promised protection, security and peace to all whom it sheltered. From the ninth to the eleventh centuries, if not later, Europe was in many ways all too open. Attack came from the sea, in the Mediterranean from Saracens and Vikings, the latter usually in their swift, dragon-prowed, easily manoeuvered longboats, manned by some sixteen pairs of oarsmen and with a full complement of perhaps sixty men. There were periods when the British Isles and the French coasts were being raided every year by Vikings and in the heart of the continent marauding Magyar armies met invading bands of Saracens. The name of Pontresina, near St. Moritz in Switzerland, is a memento of the stormy tenth century; it means *pons Saracenorum*, the "fortified Saracen bridge," the place where plundering expeditions halted on their way up from the Mediterranean.

It was recognized in theory that the Church and the monarchy were the principal powers and that they were bound by the nature of their office to ensure peace and security and to do justice; but at this period they were too weak, too torn by internal conflicts to fulfill their obligations. Thus more and more power passed into the hands of warriors invested by the monarchy and the Church with lands and rights of jurisdiction, who in return undertook to support their overlords and to protect the unarmed peasantry.

Their first concern, however, was self-protection. It is almost impossible for us to realize how primitive the great majority of these early medieval "castles" really were. Until about 1150 the fortified houses of the Anglo-Norman nobility were simple dwellings surrounded by a mound of earth and a wooden stockade. These were the motte and bailey castles: the motte was the mound and its stockade, the bailey an open court lying below and also stockaded. Both were protected, where possible, by yet another ditch filled with water, the moat. In the middle of the motte there was a wooden tower, the keep or *donjon*, which only became a genuine stronghold at a later date and in places where stone was readily available. The stone castles of the French and German nobility usually had only a single communal room in which all activities took place.

In such straitened surroundings, where warmth, light and comfort were lacking, there was no way of creating an air of privacy. It is easy enough to understand why the life of the landed nobility was often so unrestrained, so filled with harshness, cruelty and brutality, even in later, more "chivalrous" periods. The barons' daily life was bare and uneventful, punctuated by war, hunting (a rehearsal for war), and feasting. Boys were trained to fight from the age of seven or eight, and their education in arms continued until they were twenty-one, although in some cases they started to fight as early as fifteen. The peasants of the surrounding countryside, bound to their lords by a great variety of ties, produced the sparse fare which was all that the undeveloped agriculture of the early medieval period could sustain. Hunting was a constant necessity, to make up for the lack of butcher's meat, and in England and Germany in the eleventh and twelfth centuries even the kings had to progress from one crown estate to another, from one bishop's palace to the next, to maintain themselves and their retinue.

GO ON TO THE NEXT PAGE

13. According to the passage, class conflict in the Middle Ages was kept in check by

(A) the fact that most people belonged to the same class
(B) tyrannical suppressions of rebellions by powerful monarchs
(C) the religious teachings of the church
(D) the fact that all other classes admired and attempted to emulate the aristocracy
(E) the fear that a relatively minor conflict would lead to a general revolution

14. According to the author, the urban bourgeoisie was hostile to the aristocracy because

(A) the bourgeoisie was prevented by the aristocracy from seeking an alliance with the kings
(B) aristocrats often confiscated the wealth of the bourgeoisie
(C) the bourgeoisie saw the aristocracy as their rivals
(D) the aristocrats often deliberately antagonized the bourgeoisie
(E) the bourgeoisie felt that the aristocracy was immoral

15. According to the passage, castles were originally built

(A) as status symbols
(B) as strongholds against invaders
(C) as simple places to live in
(D) as luxurious chateaux
(E) as recreation centers for the townspeople

16. One of the groups that invaded central Europe during the Middle Ages from the ninth century on was the

(A) Magyars
(B) Franks
(C) Angles
(D) Celts
(E) Welsh

17. It can be seen from the passage that the aristocracy was originally

(A) the great landowners
(B) members of the clergy
(C) the king's warriors
(D) merchants who became wealthy
(E) slaves who had rebelled

18. The reform popes eventually produced an aristocratic church because

(A) they depended on the aristocracy for money
(B) they themselves were more interested in money than in religion
(C) they were defeated by aristocrats
(D) many aristocrats entered the structure of the church and impressed their values on it
(E) the aristocrats were far more religious than other segments of the population

19. The word "contentious" in line 25 is best interpreted to mean

(A) careful
(B) solid
(C) controversial
(D) grandiose
(E) annoying

20. According to the passage, hunting served the dual purpose of

(A) preparing for war and engaging in sport
(B) preparing for war and getting meat
(C) learning how to ride and learning how to shoot
(D) testing horses and men
(E) getting furs and ridding the land of excess animals

21. The phrase "amor et timor" in line 47 is used to describe

(A) the rivalry between the bourgeoisie and the aristocracy
(B) the Church's view of man and his relationship to God
(C) the peasant's loyalty to the aristocracy
(D) the adaptation of aristocratic manners and dress
(E) the payment of food in exchange for protection

22. The passage indicates that protection of the peasantry was implemented by

(A) the king's warriors
(B) the Magyar mercenaries
(C) the replacement of wood towers by stone donjons
(D) the princes of the Church
(E) the ruling monarchy

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23. According to the passage, the effectiveness of the Church and king was diminished by

(A) the ambition of the military
(B) conflicts and weaknesses within the Church and Royal house
(C) peasant dissatisfaction
(D) the inherent flaws of feudalism
(E) economic instability

24. "Retinue," the last word in the passage, refers to

(A) food
(B) all material goods
(C) money
(D) attendants
(E) family

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.

Take a 1 minute break

before starting section 5

SECTION 5

Time: 25 Minutes—Turn to Section 5 (page 863) of your answer sheet to answer the questions in this section.
35 Questions

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 <u>and she was sixty-five years old then</u>.

(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

Ⓐ ● Ⓒ Ⓓ Ⓔ

1. <u>After the defendant charged him with being prejudiced</u>, the judge withdrew from the case.

(A) After the defendant charged him with being prejudiced
(B) On account of the defendant charged him with being prejudiced
(C) Charging the defendant with being prejudiced
(D) Upon the defendant charging him with being prejudiced
(E) The defendant charged him with being prejudiced

2. <u>Although the mourners differed in nationality and in dress</u>, they all sat silently together for an hour to honor Whitney M. Young Jr.

(A) Although the mourners differed in nationality and in dress
(B) Because the mourners differed in nationality and in dress
(C) The mourners having differed in nationality and in dress
(D) When the mourners differed in nationality and in dress
(E) The mourners differed in nationality and in dress

3. <u>To avoid the hot sun, our plans were that we would travel at night</u>.

(A) To avoid the hot sun, our plans were that we would travel at night.
(B) To try to avoid the hot sun, our plans were for travel at night.
(C) Our plans were night travel so that we could avoid the hot sun.
(D) We planned to travel at night, that's how we would avoid the hot sun.
(E) To avoid the hot sun, we made plans to travel at night.

4. <u>Whatever she had any thoughts about</u>, they were interrupted as the hotel lobby door opened.

(A) Whatever she had any thoughts about
(B) Whatever her thoughts
(C) Whatever be her thoughts
(D) What her thoughts were
(E) What thoughts

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5. The use of cell phones and the Internet make it possible for school administrators to easily maintain contact with parents at all times.

(A) make it possible
(B) makes it possible
(C) allows the possibility
(D) makes possible
(E) make it a possibility

6. Irregardless what reasons or excuses are offered, there is only one word for his behavior: cowardice.

(A) Irregardless what reasons or excuses are offered
(B) Regardless about what reasons or excuses he may offer
(C) Since he offered reasons and excuses
(D) Nevertheless he offered reasons and excuses
(E) No matter what reasons and excuses are offered

7. What a man cannot state, he does not perfectly know.

(A) What a man cannot state, he does not perfectly know.
(B) A man cannot state if he does not perfectly know.
(C) A man cannot perfectly know if he does not state.
(D) That which a man cannot state is that which he cannot perfectly know.
(E) What a man cannot state is the reason he does not perfectly know.

8. Professional writers realize that they cannot hope to effect the reader precisely as they wish without care and practice in the use of words.

(A) they cannot hope to effect
(B) they cannot hope to have an effect on
(C) they cannot hope to affect
(D) they cannot hope effecting
(E) they cannot try to affect

9. I've met two people whom, I believe, were police officers.

(A) whom, I believe
(B) who, I believe
(C) each, I believe
(D) and I believe they
(E) who

10. Such people never have and never will be trusted.

(A) never have and never will be trusted
(B) never have and will be trusted
(C) never have trusted and never will trust
(D) never have been trusted and never will be trusted
(E) never have had anyone trust them and never will have anyone trust them

11. Your employer would have been inclined to favor your request if you would have waited for an occasion when he was less busy.

(A) if you would have waited for an occasion
(B) if you would only have waited for an occasion
(C) if you were to have waited for an occasion
(D) if you waited for an occasion
(E) if you had waited for an occasion

GO ON TO THE NEXT PAGE

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 (A) delegates and him (B) immediately (C) accepted the resolution drafted by (D) the neutral states. No error (E).

Ⓐ ● Ⓒ Ⓓ Ⓔ

12. Because of (A) the bomb threat, everyone was asked (B) to evacuate the bank but (C) a security guard, a fireman, and I. (D) No error (E).

13. Having drank (A) almost all the lemonade that (B) his wife had made (C) for the picnic, Mike could (D) not face her. No error (E).

14. The wealthy socialite decided that her fortune would be left (A) to whomever (B) of her relatives could present (C) her with the best plan for dispensing part of the money to deserving (D) charities. No error (E).

15. Shortly after arriving (A) at the amusement park with the eager third-graders, the parents realized (B) that they had brought nowhere near (C) the number (D) of chaperones required to control the children. No error (E).

16. The board members along with (A) the chairman were (B) planning a series (C) of speakers to lecture on different dividend plans for their (D) employees. No error (E).

17. Due to (A) his (B) not studying and not attending review sessions, Paul got (C) a failing mark in his bar exam, resulting in (D) a retraction of the job offer from the law firm. No error (E).

18. When I was (A) in high school, I worked hard (B) to buy the kind of a (C) car that most of (D) my friends were also driving. No error (E).

19. The literature professor has complained (A) that many student poets are so conceited (B) that they compare their (C) poems with Robert Frost (D). No error (E).

20. I appreciate you (A) offering to help (B) me with my research project, but the honor system prevents (C) students from giving and receiving assistance (D). No error (E).

21. In the final heat of the mile race, only two (A) runners finished the race, but even the slowest (B) of the two was able (C) to break the school record that had been set (D) a decade earlier. No error (E).

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22. Passing the written (A) test that (B) is required for a driver's license is usually easier (C) than to pass (D) the driving test. No error (E).

23. All the aspiring (A) young writers submitted their stories (B), each hoping (C) that they (D) would win first prize. No error (E).

24. Her answer to (A) the essay question on the test was all together (B) incorrect, but because it was very well written (C) she received partial (D) credit for her work. No error (E).

25. When I introduced Scott and Wilma, they (A) acted as if (B) they never met (C) before even though (D) they had gone to the same high school. No error (E).

26. The realtor felt badly (A) about not being able (B) to sell their (C) house because they were in a big hurry to move to (D) their condominium. No error (E).

27. The president of the newly formed nation took (A) steps to encourage (B) several thousands (C) of people to immigrate into (D) the country. No error (E).

28. The governor asked the attorney to head (A) the committee because he (B) was convinced (C) that (D) the committee needed to start work immediately. No error (E).

29. Both (A) my sisters participate (B) in sports, but my older (C) sister is the better (D) athlete. No error (E).

GO ON TO THE NEXT PAGE

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

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

Questions 30–35 refer to the following passage.

[1]It has been proven beyond doubt that using seat belts in automobiles and wearing helmets while riding motorcycles can save lives. [2]The federal government has passed laws requiring the installation of seat belts in all new cars. [3]Still, there are people who argue that government has no right to interfere with individual comfort and freedom by mandating the installation and use of these safety devices. [4]In many states, laws prohibit motorcyclists from riding without helmets. [5]What these people fail to realize is that, although wearing a seat belt may be somewhat uncomfortable or confining, it is not as uncomfortable as broken bones nor as confining as a wheelchair or a coffin. [6]Motorcyclists who refuse to wear helmets may enjoy a degree of pleasure in feeling the free wind blow through their hair, but, if thrown in an accident, their heads can be as easily squashed as "free and natural" cantaloupes. [7]These safety devices may limit pleasure and freedom in small ways because they greatly increase the opportunity to live pleasant and free lives in more important ways.

30. What should be done with sentence 4?

(A) It should be placed before sentence 1.
(B) It should be attached to sentence 3 with and.
(C) Nothing should be done with it.
(D) It should be placed after sentence 2.
(E) It should be attached to sentence 5 with a semicolon.

31. In sentence 3, mandating should be

(A) omitted
(B) left as it is
(C) changed to prohibiting
(D) placed before individual
(E) changed to issuing directions that are in favor of

32. In sentence 6, what change is needed?

(A) These riders are should be inserted before thrown.
(B) Cantaloupes should be changed to balloons.
(C) They should be substituted for their heads.
(D) Commas should be placed around who refuse to wear helmets.
(E) Degree should be changed to measure.

33. Sentence 7 would be improved by

(A) turning it into two sentences, the first to end after small ways
(B) putting a comma after devices
(C) beginning the sentence with while
(D) omitting in more important ways
(E) changing because to but

34. Which would get the author's point across more effectively?

(A) Inserting a sentence that would describe statistics about the danger of not wearing seat belts or helmets.
(B) Describing the mechanics of how a seat belt works and how a helmet protects the head.
(C) Describing the governmental agency that enforced the laws.
(D) Pinpointing the states that enforce the helmet law.
(E) Citing the safest cars and motorcycles.

35. To begin the author's paragraph,

(A) sentence 2 should be placed first
(B) sentence 4 should be placed first
(C) sentence 6 should be placed first
(D) sentence 7 should be placed first, deleting the first word, "These," in that sentence
(E) sentence 1 should remain as the introductory sentence

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

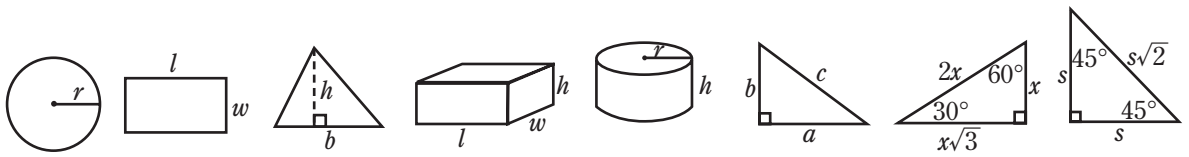
Time: 25 Minutes—Turn to Section 6 (page 864) of your answer sheet to answer the questions in this section.
18 Questions

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 scratchwork.

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.

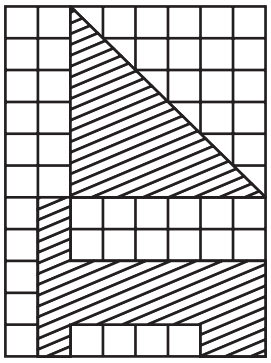
REFERENCE INFORMATION



$A = \pi r^2$ $A = lw$ $A = \frac{1}{2}bh$ $V = lwh$ $V = \pi r^2 h$ $c^2 = a^2 + b^2$ *Special Right Triangles*

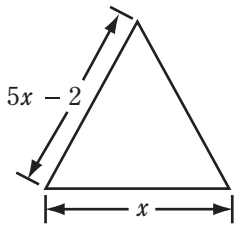
$C = 2\pi r$

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 each square in the grid above has a side of length 1, find the sum of the areas of the shaded regions.

(A) 55
(B) 46
(C) 37
(D) 30
(E) 24



2. The figure above is an equilateral triangle. What is its perimeter?

(A) $\frac{1}{4}$
(B) $\frac{1}{2}$
(C) $1\frac{1}{2}$
(D) $3\frac{1}{2}$
(E) The answer cannot be determined from the information given.

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3. If w waves pass through a certain point in s seconds, how many waves would pass through that point in t seconds?

(A) wst

(B) $\frac{t}{s}$

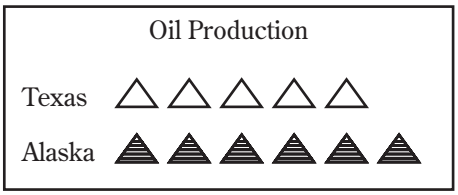
(C) $\frac{ws}{t}$

(D) $\frac{ts}{w}$

(E) $\frac{tw}{s}$

5. A box contains exactly 24 coins—nickels, dimes, and quarters. The probability of selecting a nickel by reaching into the box without looking is $\frac{3}{8}$. The probability of selecting a dime by reaching into the box without looking is $\frac{1}{8}$. How many quarters are in the box?

(A) 6
(B) 8
(C) 12
(D) 14
(E) 16



4. In the chart above, the amount represented by each shaded triangle is three times that represented by each unshaded triangle. What fraction of the total production represented by the chart was produced in Alaska?

(A) $\frac{6}{11}$

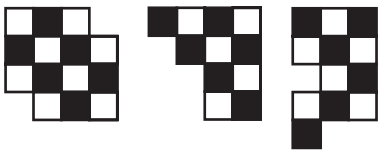
(B) $\frac{18}{5}$

(C) $\frac{18}{23}$

(D) $\frac{12}{17}$

(E) $\frac{23}{17}$

6. Which of the following designs *can* be formed by combining rectangles with size and shading the same as that shown above if overlap is not permitted?



I II III

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

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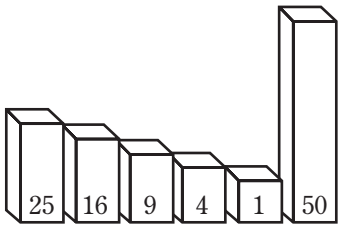
7. If $f(x) = (x - 1)^2 + (x - 2)^2 + (x - 3)^2$, then $f(x + 2) =$

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



8. Six containers, whose capacities in cubic centimeters are shown, appear in the figure above. The 25-cubic-centimeter container is filled with flour, and the rest are empty. The contents of the 25-cubic-centimeter container are used to fill the 16-cubic-centimeter container, and the excess is dumped into the 50-cubic-centimeter container. Then the 16-cubic-centimeter container is used to fill the 9-cubic-centimeter container, and the excess is dumped into the 50-cubic-centimeter container. The process is repeated until all containers, except the 1-cubic-centimeter and the 50-cubic-centimeter containers, are empty. What percent of the 50-cubic-centimeter container is *empty*?

(A) 24%
(B) 48%
(C) 50%
(D) 52%
(E) 76%

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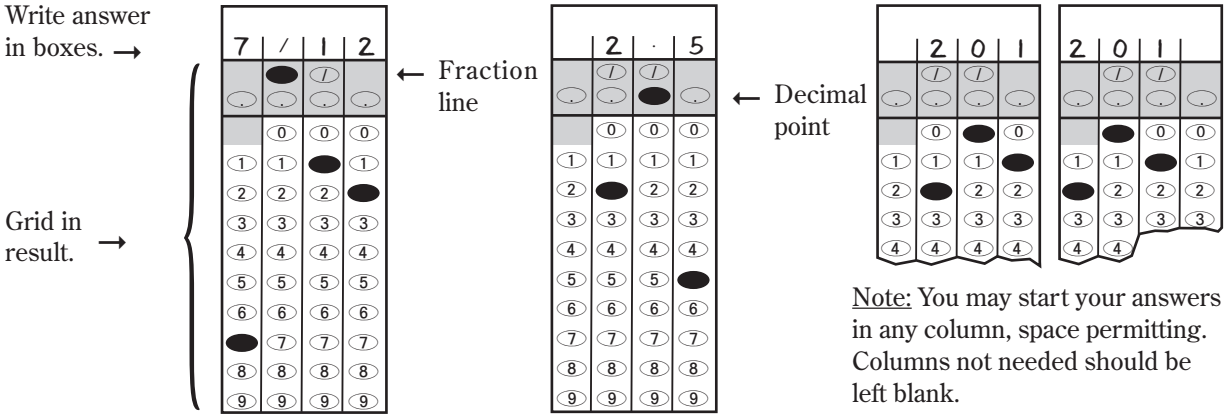
Directions: For Student-Produced Response questions 9–18, use the grids at the bottom of the answer sheet page on which you have answered questions 1–8.

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 scratchwork.

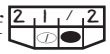
Answer: $\frac{7}{12}$ or 7/12

Answer: 2.5

Answer: 201
Either position is correct.

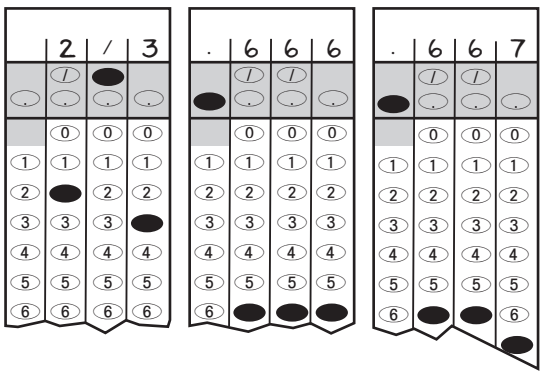


Note: You may start your answers in any column, space permitting. Columns not needed should be left blank.

- Mark no more than one oval in any column.
- Because the answer sheet will be machine-scored, **you will receive credit only if the ovals 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 ovals 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 $2\frac{1}{2}$ must be gridded as 2.5 or 5/2. (If  is gridded, it will be interpreted as $\frac{21}{2}$, not $2\frac{1}{2}$.)

- Decimal Accuracy: If you obtain a decimal answer, **enter the most accurate value the grid will accommodate.** For example, if you obtain an answer such as 0.6666…, you should record the result as .666 or .667. **Less accurate values such as .66 or .67 are not acceptable.**

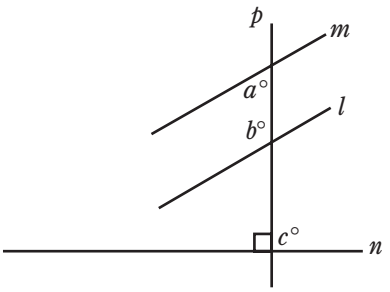
  Acceptable ways to grid $\frac{2}{3}$ = .6666…:



9. If $ab = 40$, $\frac{a}{b} = \frac{5}{2}$, and a and b are positive numbers, find the value of a.

10. Stephanie earned $\$x$ while working 10 hours. Evelyn earned $\$y$ while working 20 hours. If they both earn the same hourly wage and $x + y = 60$, how many dollars did Stephanie earn?

GO ON TO THE NEXT PAGE

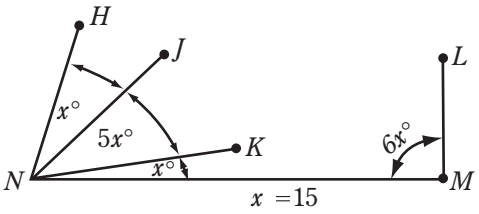


11. In the figure above, m is parallel to l and p is perpendicular to n. Find the value of $a + b + c$.

12. The difference of the areas of two circles is 21π. If their radii are $r + 3$ and r, find the radius of the *larger* circle.

	FIRST PLACE	SECOND PLACE	THIRD PLACE
	(8 points)	(4 points)	(2 points)
EVENT ①	TEAM A	TEAM B	TEAM C
EVENT ②	TEAM B	TEAM A	TEAM C

13. The results of two games involving 3 teams are shown above. Thus, we have the following standings: A and B both have 12 points, and C has 4 points. Assuming no ties, what is the least number of additional games that Team C will have to play in order to have the highest total score?

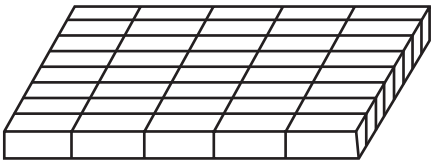


Note: Figure is not drawn to scale.

14. If the figure above were drawn to scale and all line segments were extended indefinitely in *both directions*, how many intersection points would there be in addition to N and M?

15. If a is 10 percent greater than b, and ac is 32 percent greater than bd, then c is what percent greater than d?

16. Since one gross = 12 dozen, what fraction of a gross of eggs is 3 eggs?



17. The figure above represents a layer of bricks, where each brick has a volume of 40 cubic inches. If all bricks are stacked in layers as shown, and the final pile of bricks occupies 8,000 cubic inches, how many layers are there in the final pile of bricks?

18. Let x be the smallest possible 3-digit number greater than or equal to 100 in which no digit is repeated. If y is the largest positive 3-digit number that can be made using all of the digits of x, what is the value of $y - x$?

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.

Take a 5 minute break

before starting section 7

SECTION 7

Time: 25 Minutes—Turn to Section 7 (page 864) of your answer sheet to answer the questions in this section.
24 Questions

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

Ⓐ Ⓑ Ⓒ Ⓓ ●

1. Governor Edwards combined _____ politics with administrative skills to dominate the state; in addition to these assets, he was also _____.

   (A) corrupt…glum
   (B) inept…civil
   (C) incriminating…sincere
   (D) astute…dapper
   (E) trivial…lavish

2. After four years of _____ curbs designed to protect the American auto industry, the government cleared the way for foreign countries to _____ more cars to the United States.

   (A) profitable…drive
   (B) flexible…produce
   (C) motor…direct
   (D) import…ship
   (E) reciprocal…sell

3. UNICEF reports about the 2011 crisis in the Horn of Africa demonstrate the _____ of drought, poor land use, and overpopulation.

   (A) consequences
   (B) prejudices
   (C) inequities
   (D) indications
   (E) mortalities

4. Amid the _____ of a country constantly under threat from terrorist attacks, the United States is set to bolster national _____.

   (A) treaties…silence
   (B) advantages…relations
   (C) differences…amity
   (D) tensions…security
   (E) commerce…decision

5. The union struck shortly after midnight after its negotiating committee _____ a company offer of a 3% raise.

   (A) applauded
   (B) rejected
   (C) considered
   (D) postponed
   (E) accepted

GO ON TO THE NEXT PAGE

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 6–9 are based on the following passages.

Passage 1

Homeschooling is becoming more and more desirable because children do not have the burden of traveling to school and becoming exposed to other children's sickness and everything else that goes with being in a crowded room. There is also the individual attention that the parent or tutor can give the student, which creates a better and more efficient learning environment. As standards become more and more flexible, homeschooling may in fact be the norm of the future.

Passage 2

In many studies, it was shown that students benefit in a classroom setting since the interaction and dialogue with other students creates a stimulating learning environment. The more students who are in a class, the more diversity within the group and the more varied the feedback. With a good teacher and facilitator, a classroom can be very beneficial for the student's cognitive development.

6. In Passage 1, the author's condition for an effective learning condition is based on

(A) flexible standards
(B) the closeness of a parent and a child
(C) the reduction of travel time
(D) a one-on-one learning experience
(E) the sanitary conditions in the learning environment

7. Which of the following is *not* addressed in Passage 2?

(A) The advantage of classroom learning with the student interacting and sharing ideas with other students
(B) The student exposed to multicultural ways in approaching the learning experience
(C) The teacher's playing an active role in the learning experience
(D) The more students in the classroom leading to the more feedback each student can receive
(E) The positive relationship between the different types of students and learning

8. Which criterion is the same in homeschooling and regular classroom schooling?

(A) the health condition
(B) the burden of traveling
(C) the feedback with other students
(D) the diversity of the students
(E) the learning experience

9. Which of the following adjustments would make an ideal environment for learning, according to what is addressed in both passages?

(A) In homeschooling, the student could travel on weekends to cultural areas.
(B) In school, the teacher could occasionally work with the student on an individual basis.
(C) In homeschooling, the student could be exposed to and interact with other students on a regular basis.
(D) The student could spend one-half of his educational time in school and one-half of his educational time at home.
(E) The student could learn at home and go to school to socialize.

GO ON TO THE NEXT PAGE

Questions 10–15 are based on the following passage.

The following passage is about the literature of the African American culture and its impact on society.

The literature of an oppressed people is the conscience of man, and nowhere is this seen with more intense clarity than in the literature of African Americans. An essential element of African American literature is that the literature as a whole—not the work of occasional authors—is a movement against concrete wickedness. In African American literature, accordingly, there is a grief rarely to be found elsewhere in American literature, and frequently a rage rarely to be found in American letters: a rage different in quality, more profound, more towering, more intense—the rage of the oppressed. Whenever an African American artist picks up pen or horn, his target is likely to be American racism, his subject the suffering of his people, and the core element his own grief and the grief of his people. Almost all of African American literature carries the burden of this protest.

The cry for freedom and the protest against injustice indicate a desire for the birth of the New Man, a testament to the New Unknown World to be discovered, to be created by man. African American literature is, as a body, a declaration that despite the perversion and cruelty that cling like swamp roots to the flesh of man's feet, man has options for freedom, for cleanliness, for wholeness, for human harmony, for goodness: for a human world. Like the spirituals that are a part of it, African American literature is a passionate assertion that man will win freedom. Thus, African American literature rejects despair and cynicism; it is a literature of realistic hope and life affirmation. This is not to say that no African American literary work reflects cynicism or despair, but rather that the basic theme of African American literature is that man's goodness will prevail.

African American literature is a statement against death, a statement as to what life should be: life should be vivacious, exuberant, wholesomely uninhibited, sensual, sensuous, constructively antirespectable; life should abound and flourish and laugh; life should be passionately lived and man should be loving; life should be not a sedate waltz or foxtrot but a vigorous breakdance. Thus, when the African American writer criticizes America for its cruelty, the criticism implies that America is drawn to death and repelled by what should be the human style of life, the human way of living.

African American literature in America is, then, a setting forth of man's identity and destiny; an investigation of man's iniquity and a statement of belief in his potential godliness; a prodding of man toward exploring and finding deep joy in his humanity.

10. The author states or implies that

(A) a separate-but-equal doctrine is the answer to American racism
(B) African American literature is superior to American literature
(C) hopelessness and lack of trust are the keynotes of African American literature
(D) standing up for one's rights and protesting about unfairness are vital
(E) traditional forms of American-type dancing should be engaged in

11. When the author, in referring to African American literature, states that "life should be…constructively antirespectable" (lines 32–34), it can be inferred that people ought to

(A) do their own thing provided what they do is worthwhile
(B) show disrespect for others when they have the desire to do so
(C) be passionate in public whenever the urge is there
(D) shun a person because he is of another race or color
(E) be enraged if their ancestors have been unjustly treated

12. With reference to the passage, which of the following statements are true about African American literature?

I. It expresses the need for nonviolent opposition to antiracism.
II. It urges a person to have respect for himself and for others.
III. It voices the need for an active, productive, and satisfying life.

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

13. The tone of the passage is one of

(A) anger and vindictiveness
(B) hope and affirmation
(C) forgiveness and charity
(D) doubt and despair
(E) grief and cruelty

GO ON TO THE NEXT PAGE

14. Which of the following constitute(s) the author's view of a "human world?"

I. harmony
II. cleanliness
III. wholeness

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

15. The word "iniquity" (line 44) means

(A) potential
(B) creation
(C) wickedness
(D) cleverness
(E) greatness

GO ON TO THE NEXT PAGE

Questions 16–24 are based on the following passage.

The following passage is based on B. F. Skinner's book About Behaviorism *and discusses the pros and cons of Skinner's work on behaviorism and the various points made by Skinner.*

In his compact and modestly titled book *About Behaviorism*, Dr. B. F. Skinner, the noted behavioral psychologist, lists the 20 most salient objections to "behaviorism or the science of behavior," and he has gone on to answer them both implicitly and explicitly. He has answers and explanations for everyone.

For instance, to those who object that behaviorists "deny the existence of feelings, sensations, ideas, and other features of mental life," Dr. Skinner concedes that "a good deal of clarification" is in order. What such people are really decrying is "methodological behaviorism," an earlier stage of the science whose goal was precisely to close off mentalistic explanations of behavior, if only to counteract the 2,500-year-old influence of mentalism. But Dr. Skinner is a "radical behaviorist." "Radical behaviorism…takes a different line. It does not deny the possibility of self-observation or self-knowledge or its possible usefulness… It restores introspection…."

For instance, to those who object that behaviorism "neglects innate endowment and argues that all behavior is acquired during the lifetime of the individual," Dr. Skinner expresses puzzlement. Granted, "A few behaviorists…have minimized if not denied a genetic contribution, and in their enthusiasm for what may be done through the environment, others have no doubt acted as if a genetic endowment were unimportant, but few would contend that behavior is 'endlessly malleable.'" And Dr. Skinner himself, sounding as often as not like some latter-day Social Darwinist, gives as much weight to the "contingencies of survival" in the evolution of the human species as to the "contingencies of reinforcement" in the lifetime of the individual.

For instance, to those who claim that behaviorism "cannot explain creative achievements—in art, for example, or in music, literature, science, or mathematics"—Dr. Skinner provides an intriguing ellipsis. "Contingencies of reinforcement also resemble contingencies of survival in the production of novelty….In both natural selection and operant conditioning the appearance of 'mutations' is crucial. Until recently, species evolved because of random changes in genes or chromosomes, but the geneticist may arrange conditions under which mutations are particularly likely to occur. We can also discover some of the sources of new forms of behavior which undergo selection by prevailing contingencies or reinforcement, and fortunately the creative artist or thinker has other ways of introducing novelties."

And so go Dr. Skinner's answers to the 20 questions he poses—questions that range all the way from asking if behaviorism fails "to account for cognitive processes" to wondering if behaviorism "is indifferent to the warmth and richness of human life, and…is incompatible with the… enjoyment of art, music, and literature and with love for one's fellow men."

But will it wash? Will it serve to silence those critics who have characterized B. F. Skinner variously as a mad, manipulative doctor, as a naïve 19th-century positivist, as an unscientific technician, and as an arrogant social engineer? There is no gainsaying that *About Behaviorism* is an unusually compact summary of both the history and "the philosophy of the science of human behavior" (as Dr. Skinner insists on defining behaviorism). It is a veritable artwork of organization. And anyone who reads it will never again be able to think of behaviorism as a simplistic philosophy that reduces human beings to black boxes responding robotlike to external stimuli.

Still, there are certain quandaries that *About Behaviorism* does not quite dispel. For one thing, though Dr. Skinner makes countless references to the advances in experiments with human beings that behaviorism has made since it first began running rats through mazes many decades ago, he fails to provide a single illustration of these advances. And though it may be true, as Dr. Skinner argues, that one can extrapolate from pigeons to people, it would be reassuring to be shown precisely how.

More importantly, he has not satisfactorily rebutted the basic criticism that behaviorism "is scientistic rather than scientific. It merely emulates the sciences." A true science doesn't predict what it will accomplish when it is firmly established as a science, not even when it is posing as "the philosophy of that science." A true science simply advances rules for testing hypotheses.

But Dr. Skinner predicts that behaviorism will produce the means to save human society from impending disaster. Two key concepts that keep accreting to that prediction are "manipulation" and "control." And so, while he reassures us quite persuasively that his science would practice those concepts benignly, one can't shake off the suspicion that he was advancing a science just in order to save society by means of "manipulation" and "control." And that is not so reassuring.

16. According to the passage, Skinner would be most likely to agree that

(A) studies of animal behavior are applicable to human behavior
(B) introspection should be used widely to analyze conscious experience
(C) behaviorism is basically scientistic
(D) behavioristic principles and techniques will be of no use in preventing widespread disaster
(E) an individual can form an infinite number of sentences that he has never heard spoken

GO ON TO THE NEXT PAGE

17. The reader may infer that

(A) Skinner's philosophy is completely democratic in its methodology
(B) behaviorism, in its early form, and mentalism were essentially the same
(C) the book *About Behaviorism* is difficult to understand because it is not well structured
(D) methodological behaviorism preceded both mentalism and radical behaviorism
(E) the author of the article has found glaring weaknesses in Skinner's defense of behaviorism

18. When Skinner speaks of "contingencies of survival" (line 29) and "contingencies of reinforcement" (lines 30–31), the word "contingency" most accurately means

(A) frequency of occurrence
(B) something incidental
(C) a quota
(D) dependence on chance
(E) one of an assemblage

19. The author of the article says that Skinner sounds "like some latter-day Social Darwinist" (line 28) most probably because Skinner

(A) is a radical behaviorist who has differed from methodological behaviorists
(B) has predicted that human society faces disaster
(C) has been characterized as a 19th-century positivist
(D) has studied animal behavior as applicable to human behavior
(E) believes that the geneticist may arrange conditions for mutations to occur

20. It can be inferred from the passage that "extrapolate" (line 72) means

(A) to gather unknown information by extending known information
(B) to determine how one organism may be used to advantage by another organism
(C) to insert or introduce between other things or parts
(D) to change the form or the behavior of one thing to match the form or behavior of another thing
(E) to transfer an organ of a living thing into another living thing

21. One *cannot* conclude from the passage that

(A) Skinner is a radical behaviorist but not a methodological behaviorist
(B) *About Behavior* does not show how behaviorists have improved in experimentation with human beings
(C) only human beings are used in experiments conducted by behaviorists
(D) methodological behaviorism rejects the introspective approach
(E) the book being discussed is to the point and well organized

22. In Skinner's statement that "few would contend that behavior is 'endlessly malleable'" (lines 26–27), he means that

(A) genetic influences are of primary importance in shaping human behavior
(B) environmental influences may be frequently supplemented by genetic influences
(C) self-examination is the most effective way of improving a behavior pattern
(D) the learning process continues throughout life
(E) psychologists will never come to a common conclusion about the best procedure for studying and improving human behavior

23. According to the author, which of the following are true concerning *scientistic* and *scientific* disciplines?

I. The scientific one develops the rules for testing the theory; the scientistic one does not.
II. There is no element of prediction in scientistic disciplines.
III. Science never assumes a philosophical nature.

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

24. The word "veritable" (line 60) means

(A) abundant
(B) careful
(C) political
(D) true
(E) believable

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

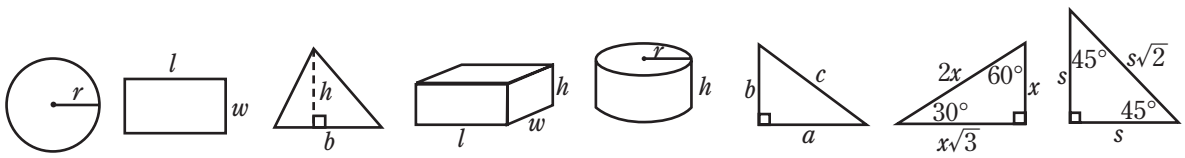
Time: 20 Minutes—Turn to Section 8 (page 865) of your answer sheet to answer the questions in this section.
16 Questions

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 scratchwork.

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



$A = \pi r^2$ $A = lw$ $A = \frac{1}{2}bh$ $V = lwh$ $V = \pi r^2 h$ $c^2 = a^2 + b^2$ *Special Right Triangles*
$C = 2\pi r$

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 $5x = 3$, then $(5x + 3)^2 =$

(A) 0
(B) 9
(C) 25
(D) 36
(E) 64

2. The ratio of girls to boys in a class is 8 : 7. The number of students in the class could be any of the following *except*

(A) 15
(B) 45
(C) 50
(D) 60
(E) 90

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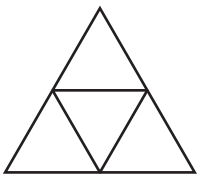


3. The above figure is an equilateral triangle divided into four congruent, smaller, equilateral triangles. If the perimeter of a smaller triangle is 1, then the perimeter of the whole large triangle is

(A) 2
(B) 4
(C) 6
(D) 8
(E) 16

4. Matías has \$15.25 and spent \$7.50 at the sporting goods store. How much money does he have left?

(A) \$0.25
(B) \$1.75
(C) \$6.75
(D) \$7.75
(E) \$8.25

5. Given $\frac{4^3+4^3+4^3+4^3}{4^y} = 4$, find y.

(A) 3
(B) 4
(C) 8
(D) 12
(E) 64

6. If $\frac{2x^2+x-5}{x^3+4x^2} = \frac{1}{2}$ then which of the following is true?

(A) $x^3 - 2x = 10$
(B) $x^3 + 2x = 10$
(C) $x^3 - 2x = -10$
(D) $x^3 + 2x = -10$
(E) $x^3 + 2x + 2x^2 = 10$

GO ON TO THE NEXT PAGE

7. A population that starts at 100 and doubles after eight years can be expressed as the following, where t stands for the number of years that have elapsed from the start:

(A) 100×2^{t}
(B) $100 \times 2^{\frac{t}{7}}$
(C) $100 \times 2^{t-8}$
(D) $100 \times 2^{\frac{t}{8}}$
(E) 100×2^{16t}

8. Find the solution set in positive integers of $2x + 5 < 5$.

(A) {1, 2, 3, 4}
(B) {1, 2}
(C) {0}
(D) { }
(E) infinity

9. If $a^{b} = x$ and $x^{b} = y$, then

(A) $a^{2b} = y$
(B) $a^{b^2} = y$
(C) $b^{a} = y$
(D) $(ax)^{b} = y$
(E) $(ax)^{b} = x$

10. Two lines in a plane are represented by $y = x - 1$ and $2x + 5y = 9$. The coordinates of the point at which the lines intersect are

(A) (2,1)
(B) (1,2)
(C) (2,5)
(D) (5,2)
(E) (3,3)

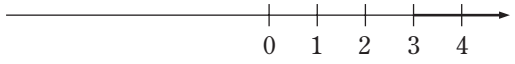
GO ON TO THE NEXT PAGE

$$C = md + t$$

11. The cost, C, of a business trip is represented by the equation above, where m is a constant, d is the number of days of the complete trip, and t is the cost of transportation, which does not change. If the business trip was increased by 5 days, how much more did the business trip cost than the original planned trip?

(A) $5d$
(B) $5m$
(C) $5t$
(D) $d(m - 3)$
(E) $m(d - 3)$

12. Which of the following represents x on a number line if $(x - 3) \leq 0$?

(A)


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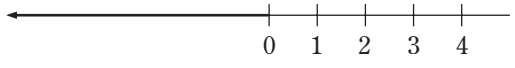

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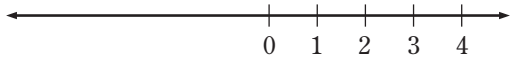
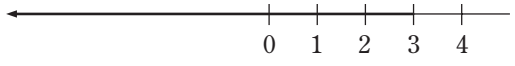
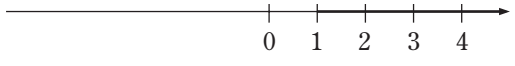


(D)


(E)


$$4x - 3y = 9$$
$$8x + ky = 19$$

13. For which value of k will the system of equations above have *no* solution?

(A) $+6$
(B) $+3$
(C) 0
(D) -3
(E) -6

14. Given that $r \neq 0$ and $r = 5w = 7a$, find the value of $r - w$ in terms of a.

(A) $\frac{1a}{7}$
(B) $\frac{7a}{5}$
(C) $3a$
(D) $\frac{28a}{5}$
(E) $28a$

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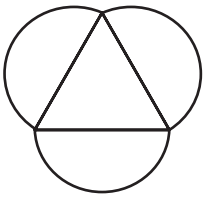


15. The figure above consists of equal semicircles each touching the other at the ends of their diameters. If the radius of each circle is 2, what is the *total enclosed* area?

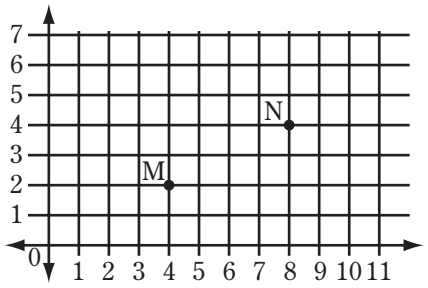
(A) $\frac{\sqrt{3}}{4} + \pi$

(B) $\sqrt{3} + 2\pi$

(C) $4\sqrt{3} + 6\pi$

(D) 6π

(E) $\frac{\sqrt{2}}{4} + 4\pi$



16. Which of the following points, when plotted on the grid above, will be three times as far from $M(4,2)$ as from $N(8,4)$?

(A) (2,1)
(B) (4,4)
(C) (6,3)
(D) (7,1)
(E) (10,5)

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—Turn to Section 9 (page 865) of your answer sheet to answer the questions in this section.
19 Questions

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

Ⓐ Ⓑ Ⓒ Ⓓ ●

1. Illegally parked vehicles block hydrants and crosswalks, _____ the flow of traffic when double-parked, and _____ the law.

(A) stem…enforce
(B) expedite…violate
(C) reduce…resist
(D) drench…challenge
(E) impede…flout

2. With social media _____, Facebook and other suchlike websites are changing the way millions around the world use their _____ time.

(A) advertising…canceled
(B) suffering…valuable
(C) stabilizing…extra
(D) recording…unused
(E) booming…leisure

3. The fact that the _____ of confrontation is no longer as popular as it once was _____ progress in race relations.

(A) practice…inculcates
(B) reticence…indicates
(C) glimmer…foreshadows
(D) insidiousness…reiterates
(E) technique…presages

4. The _____ of scarcity amidst plenty characterizes even a rich country in a time of inflation.

(A) coherence
(B) tedium
(C) facet
(D) sequence
(E) paradox

5. The scientist averred that a nuclear war could _____ enough smoke and dust to blot out the sun and freeze the earth.

(A) pervert
(B) extinguish
(C) generate
(D) evaluate
(E) perpetrate

6. Until his death he remained _____ in the belief that the world was conspiring against him.

(A) ignominious
(B) taciturn
(C) tantamount
(D) obdurate
(E) spurious

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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 two passages are about violence. The first discusses televised violence; the second attempts to address the history of violence in general.

Passage 1

Violence is alive and well on television. Yet there appears to be a difference in the quality, variety, and pervasiveness of today's televised violence. Some observers believe that, as a result of more than three decades of television, viewers have developed a kind of immunity to the horror of violence. By the age of 16, for example, the average young person will have seen some 18,000 murders on television. One extension of this phenomenon may be an appetite for more varied kinds of violence. On the basis of the amount of exposure, certain things that initially would have been beyond the pale have become more readily accepted.

Violence on TV has been more prevalent in recent years, in large measure because there are fewer situation comedies and more action series, but also because some 25 million of the nation's 85 million homes with television now receive one of the cable services that routinely show uncut feature films containing graphic violence as early as 8:00 in the evening.

The evidence is becoming overwhelming that just as witnessing violence in the home may contribute to children learning and acting out violent behavior, violence on TV and in the movies may lead to the same result. Studies have shown that a steady diet of watching graphic violence or sexually violent films such as those shown on cable TV has caused some men to be more willing to accept violence against women, such as rape and wife-beating. Not only actual violence, but the kind of violence coming through the television screen is causing concern. One of the principal developments is the increasing sophistication of the weaponry. The simple gunfight of the past has been augmented by high-tech crimes like terrorist bombings. A gunfighter shooting down a sheriff is one thing. When you have terrorist bombs, the potential is there for hundreds to die. Programs in the past used the occasional machine gun, but such weapons as the M-60 machine gun and Uzi semiautomatic have become commonplace today on network shows.

Many people are no longer concerned about televised violence because they feel it is the way of the world. It is high time that broadcasters provide public messages on TV screens that would warn viewers about the potentially harmful effects of viewing televised violence.

Passage 2

We have always been a lawless and a violent people. Thus, our almost unbroken record of violence against the Indians and all others who got in our way—the Spaniards in the Floridas, the Mexicans in Texas; the violence of the vigilantes on a hundred frontiers; the pervasive violence of slavery (a "perpetual exercise," Jefferson called it, "of the most boisterous passions"); the lawlessness of the Ku Klux Klan during Reconstruction and after; and of scores of race riots from those of Chicago in 1919 to those of New Orleans in the 1960s. Yet, all this violence, shocking as it doubtless was, no more threatened the fabric of our society or the integrity of the Union than did the lawlessness of Prohibition back in the Twenties. The explanation for this is to be found in the embarrassing fact that most of it was official, quasi-official, or countenanced by public opinion: exterminating the Indian; flogging the slave; lynching the outlaw; exploiting women and children in textile mills and sweatshops; hiring Pinkertons to shoot down strikers; condemning immigrants to fetid ghettos; punishing blacks who tried to exercise their civil or political rights. Most of this was socially acceptable—or at least not wholly unacceptable—just as so much of our current violence is socially acceptable: the many thousands of automobile deaths every year; the mortality rate for black babies at twice that for white; the deaths from cancer induced by cigarettes or by air pollution; the sadism of our penal system and the horrors of our prisons; the violence of some police against the so-called "dangerous classes of society."

What we have now is the emergence of violence that is not acceptable either to the Establishment, which is frightened and alarmed, or to the victims of the Establishment, who are no longer submissive and who are numerous and powerful. This is now familiar "crime in the streets," or it is the revolt of the young against the economy, the politics, and the wars of the established order, or it is the convulsive reaction of the blacks to a century of injustice. But now, too, official violence is no longer acceptable to its victims—or to their ever more numerous sympathizers: the violence of great corporations and of government itself against the natural resources of the nation; the long drawn-out violence of the white majority against blacks and other minorities; the violence of the police and the National Guard against the young; the massive violence of the military against the peoples of other countries. These acts can no longer be absorbed by large segments of our society. It is this new polarization that threatens the body politic and the social fabric much as religious dissent threatened them in the Europe of the sixteenth and seventeenth centuries.

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