

SECTION

1

I grant the College Board the unlimited right to use, reproduce, and publish my essay for any and all purposes. My name will not be used in any way in conjunction with my essay. I understand that I am free to mark "No," with no effect on my score.

Yes **No**

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

Essay writing area with horizontal lines.

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**

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|------------------------|------------------------|------------------------|------------------------|
| 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) |
| 6 (A) (B) (C) (D) (E) | 16 (A) (B) (C) (D) (E) | 26 (A) (B) (C) (D) (E) | 36 (A) (B) (C) (D) (E) |
| 7 (A) (B) (C) (D) (E) | 17 (A) (B) (C) (D) (E) | 27 (A) (B) (C) (D) (E) | 37 (A) (B) (C) (D) (E) |
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| 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
3**

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|------------------------|------------------------|------------------------|------------------------|
| 1 (A) (B) (C) (D) (E) | 11 (A) (B) (C) (D) (E) | 21 (A) (B) (C) (D) (E) | 31 (A) (B) (C) (D) (E) |
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Section 3, the equating section of this practice test, has been omitted.

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.

<p>9</p>	<p>10</p>	<p>11</p>	<p>12</p>	<p>13</p>
<p>14</p>	<p>15</p>	<p>16</p>	<p>17</p>	<p>18</p>

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**

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|----|-----------|----|-----------|----|-----------|----|-----------|
| 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 |
| 6 | A B C D E | 16 | A B C D E | 26 | A B C D E | 36 | A B C D E |
| 7 | A B C D E | 17 | A B C D E | 27 | A B C D E | 37 | A B C D E |
| 8 | A B C D E | 18 | A B C D E | 28 | A B C D E | 38 | A B C D E |
| 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**

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|----|-----------|----|-----------|----|-----------|----|-----------|
| 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 |
| 6 | A B C D E | 16 | A B C D E | 26 | A B C D E | 36 | A B C D E |
| 7 | A B C D E | 17 | A B C D E | 27 | A B C D E | 37 | A B C D E |
| 8 | A B C D E | 18 | A B C D E | 28 | A B C D E | 38 | A B C D E |
| 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 |

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.

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.

<p>9</p>	<p>10</p>	<p>11</p>	<p>12</p>	<p>13</p>
<p>14</p>	<p>15</p>	<p>16</p>	<p>17</p>	<p>18</p>

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

8

- | | | | | | | | |
|----|---------------------|----|---------------------|----|---------------------|----|---------------------|
| 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) |
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| 8 | (A) (B) (C) (D) (E) | 18 | (A) (B) (C) (D) (E) | 28 | (A) (B) (C) (D) (E) | 38 | (A) (B) (C) (D) (E) |
| 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

9

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|----|---------------------|----|---------------------|----|---------------------|----|---------------------|
| 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) |
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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

10

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| 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) |
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| 6 | (A) (B) (C) (D) (E) | 16 | (A) (B) (C) (D) (E) | 26 | (A) (B) (C) (D) (E) | 36 | (A) (B) (C) (D) (E) |
| 7 | (A) (B) (C) (D) (E) | 17 | (A) (B) (C) (D) (E) | 27 | (A) (B) (C) (D) (E) | 37 | (A) (B) (C) (D) (E) |
| 8 | (A) (B) (C) (D) (E) | 18 | (A) (B) (C) (D) (E) | 28 | (A) (B) (C) (D) (E) | 38 | (A) (B) (C) (D) (E) |
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| 10 | (A) (B) (C) (D) (E) | 20 | (A) (B) (C) (D) (E) | 30 | (A) (B) (C) (D) (E) | 40 | (A) (B) (C) (D) (E) |

YOUR NAME (PRINT) _____
 LAST FIRST MI
 TEST CENTER _____
 NUMBER NAME OF TEST CENTER ROOM NUMBER

SAT Reasoning Test — General Directions

Timing

- You will have 3 hours and 45 minutes to work on this test.
- There are ten separately timed sections:
 - ▶ One 25-minute essay
 - ▶ Six other 25-minute sections
 - ▶ Two 20-minute sections
 - ▶ One 10-minute section
- You may work on only one section at a time.
- The supervisor will tell you when to begin and end each section.
- If you finish a section before time is called, check your work on that section. You may NOT turn to any other section.
- Work as rapidly as you can without losing accuracy. Don't waste time on questions that seem too difficult for you.

Marking Answers

- Carefully mark only one answer for each question.
- Make sure each mark is dark and completely fills the circle.
- Do not make any stray marks on your answer sheet.
- If you erase, do so completely. Incomplete erasures may be scored as intended answers.
- Use only the answer spaces that correspond to the question numbers.
- You may use the test book for scratchwork, but you will not receive credit for anything written there.
- After time has been called, you may not transfer answers to your answer sheet or fill in circles.
- You may not fold or remove pages or portions of a page from this book, or take the book or answer sheet from the testing room.

Scoring

- For each correct answer to a question, you receive one point.
- For questions you omit, you receive no points.
- For a wrong answer to a multiple-choice question, you lose one-fourth of a point.
 - ▶ If you can eliminate one or more of the answer choices as wrong, you increase your chances of choosing the correct answer and earning one point.
 - ▶ If you can't eliminate any choice, move on. You can return to the question later if there is time.
- For a wrong answer to a student-produced response ("grid-in") math question, you don't lose any points.
- The essay is scored on a 1 to 6 scale by two different readers. The total essay score is the sum of the two readers' scores.
- An off-topic or blank essay will receive a score of zero.

The passages for this test have been adapted from published material. The ideas contained in them do not necessarily represent the opinions of the College Board or Educational Testing Service.

IMPORTANT: The codes below are unique to your test book. Copy them on your answer sheet in boxes 8 and 9 and fill in the corresponding circles exactly as shown.

9	TEST FORM (Copy from back of test book)
4162068	

8	FORM CODE (Copy and grid as on back of test book.)					
A	B	C	D	1	2	3
●	(A)	(A)	(A)	(0)	(0)	(0)
(B)	●	(B)	(B)	●	(1)	(1)
(C)	(C)	●	(C)	(2)	●	(2)
(D)	(D)	(D)	●	(3)	(3)	●
(E)	(E)	(E)	(E)	(4)	(4)	(4)
(F)	(F)	(F)	(F)	(5)	(5)	(5)
(G)	(G)	(G)	(G)	(6)	(6)	(6)
(H)	(H)	(H)	(H)	(7)	(7)	(7)
(I)	(I)	(I)	(I)	(8)	(8)	(8)
(J)	(J)	(J)	(J)	(9)	(9)	(9)
(K)	(K)	(K)	(K)			
(L)	(L)	(L)	(L)			
(M)	(M)	(M)	(M)			
(N)	(N)	(N)	(N)			
(O)	(O)	(O)	(O)			
(P)	(P)	(P)	(P)			
(Q)	(Q)	(Q)	(Q)			
(R)	(R)	(R)	(R)			
(S)	(S)	(S)	(S)			
(T)	(T)	(T)	(T)			
(U)	(U)	(U)	(U)			
(V)	(V)	(V)	(V)			
(W)	(W)	(W)	(W)			
(X)	(X)	(X)	(X)			
(Y)	(Y)	(Y)	(Y)			
(Z)	(Z)	(Z)	(Z)			

DO NOT OPEN THIS BOOK UNTIL THE SUPERVISOR TELLS YOU TO DO SO.



ESSAY

Unauthorized copying or reuse of
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ESSAY



ESSAY

Time — 25 minutes

Turn to page 2 of your answer sheet to write your ESSAY.

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

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

You have twenty-five minutes to write an essay on the topic assigned below. **DO NOT WRITE ON ANOTHER TOPIC. AN OFF-TOPIC ESSAY WILL RECEIVE A SCORE OF ZERO.**

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

People who like to think of themselves as tough-minded and realistic tend to take it for granted that human nature is “selfish” and that life is a struggle in which only the fittest may survive. According to this view, the basic law by which people must live is the law of the jungle. The “fittest” are those people who can bring to the struggle superior force, superior cunning, and superior ruthlessness.

Adapted from S.I. Hayakawa, *Language in Thought and Action*

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

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 2 OF THE ANSWER SHEET.

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



SECTION 2

Time — 25 minutes

20 Questions

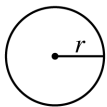
Turn to Section 2 (page 4) of your answer sheet to answer the questions in this section.

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

Notes

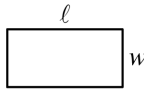
- The use of a calculator is permitted.
- All numbers used are real numbers.
- Figures that accompany problems in this test are intended to provide information useful in solving the problems. They are drawn as accurately as possible EXCEPT when it is stated in a specific problem that the figure is not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

Reference Information

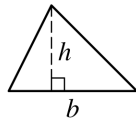


$$A = \pi r^2$$

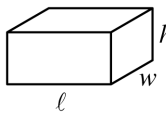
$$C = 2\pi r$$



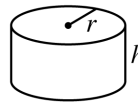
$$A = \ell w$$



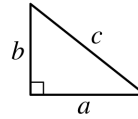
$$A = \frac{1}{2}bh$$



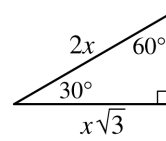
$$V = \ell wh$$



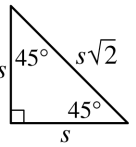
$$V = \pi r^2 h$$



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



Special Right Triangles



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

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

1. If $x^2 - 36 = 0$, which of the following could be a value of x ?

(A) -6
(B) -4
(C) 0
(D) 3
(E) 12

2. The length of a rectangular rug is 2 feet more than its width. If the length of the rug is 8 feet, what is the area of the rug in square feet?

(A) 16
(B) 48
(C) 66
(D) 80
(E) 96

3. If $r = 2t$ and $t = 3$, what is the value of $2r$?

(A) 2
(B) 4
(C) 6
(D) 8
(E) 12

Some integers in set X are even.

4. If the statement above is true, which of the following must also be true?

(A) If an integer is even, it is in set X .
(B) If an integer is odd, it is in set X .
(C) All integers in set X are even.
(D) All integers in set X are odd.
(E) Not all integers in set X are odd.

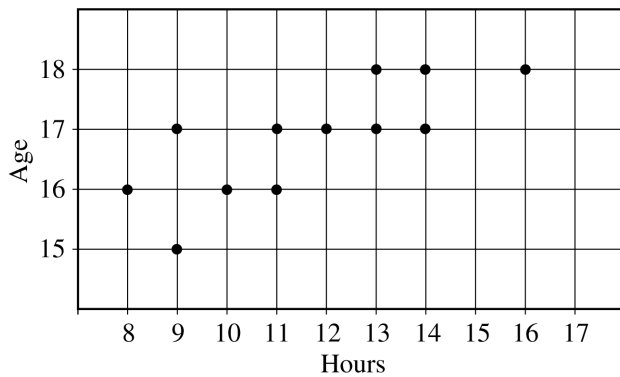
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5. A triangle has a perimeter of 13 and one side of length 3. If the lengths of the other two sides are equal, what is the length of each of them?
- (A) 4
(B) 5
(C) 6
(D) 7
(E) 8

7. Squaring the product of z and 5 gives the same result as squaring the sum of z and 5. Which of the following equations could be used to find all possible values of z ?
- (A) $5z^2 = (z + 5)^2$
(B) $(5z)^2 = z^2 + 5^2$
(C) $5^2z = z^2 + 5^2$
(D) $(5z)^2 = (z + 5)^2$
(E) $5z^2 = z^2 + 5^2$

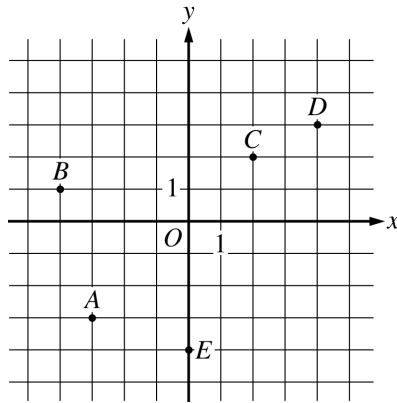
HOURS WORKED BY STUDENTS



6. The grid above shows the number of hours worked last week by 12 students of various ages at after-school jobs. Which of the following is true, according to this grid?
- (A) Half of the students worked more than 12 hours each.
(B) One student worked exactly 15 hours.
(C) One 16 year old worked more than 11 hours.
(D) More 18 year olds than 17 year olds worked at least 13 hours each.
(E) Most of the students were under 16 years old.

8. If as many 7-inch pieces of wire as possible are cut from a wire that is 3 feet long, what is the total length of the wire that is left over? (12 inches = 1 foot)
- (A) 1 inch
(B) 2 inches
(C) 3 inches
(D) 4 inches
(E) 5 inches

GO ON TO THE NEXT PAGE



9. Which of the lettered points in the figure above has coordinates (x, y) such that $|x| + |y| = 5$?

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

$$A = \left\{ \frac{4}{7}, 1, \frac{5}{2}, 4, \frac{11}{2}, 7 \right\}$$

$$B = \left\{ \frac{4}{7}, \frac{7}{4}, 4, 7 \right\}$$

10. If n is a member of both set A and set B above, which of the following must be true?

I. n is an integer.
 II. $4n$ is an integer.
 III. $n = 4$

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

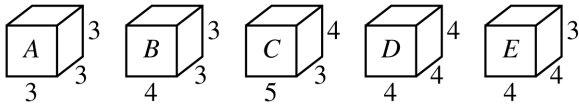
11. If y is directly proportional to x and if $y = 20$ when $x = 6$, what is the value of y when $x = 9$?

(A) $\frac{10}{3}$
 (B) $\frac{40}{3}$
 (C) 23
 (D) 27
 (E) 30

12. The n th term of a sequence is defined to be $4n + 3$. The 50th term is how much greater than the 45th term?

(A) 5
 (B) 16
 (C) 20
 (D) 23
 (E) 24

GO ON TO THE NEXT PAGE



Note: Figures not drawn to scale.

13. Which of the rectangular solids shown above has a volume closest to the volume of a right circular cylinder with radius 2 and height 4?
- (A) *A*
 (B) *B*
 (C) *C*
 (D) *D*
 (E) *E*

$$j = x^2 - 0.49$$

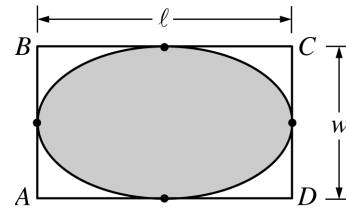
$$k = (x - 0.49)^2$$

$$m = x^3 - 0.49$$

14. If x is a negative integer, what is the ordering of j , k , and m from least to greatest?
- (A) $j < k < m$
 (B) $j < m < k$
 (C) $k < j < m$
 (D) $m < j < k$
 (E) $m < k < j$

15. Flour, water, and salt are mixed by weight in the ratio of 5:4:1, respectively, to produce a certain type of dough. In order to make 5 pounds of this dough, what weight of salt, in pounds, is required?

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



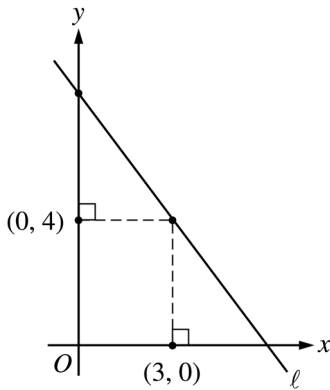
16. In rectangle $ABCD$ above, the area of the shaded region is given by $\frac{\pi \ell w}{4}$. If the area of the shaded region is 7π , what is the total area, to the nearest whole number, of the unshaded regions of rectangle $ABCD$?
- (A) 4
 (B) 6
 (C) 8
 (D) 9
 (E) 10

GO ON TO THE NEXT PAGE



17. The city library donated some children's books to Mr. Clark's first-grade class. If each student takes 4 books, there will be 20 books left. If 3 students do not take a book and the rest of the students take 5 books each, there will be no books left. How many books were donated to the class?

(A) 120
(B) 140
(C) 160
(D) 175
(E) 185



Note: Figure not drawn to scale.

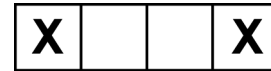
18. In the figure above, if line ℓ has a slope of -2 , what is the y -intercept of ℓ ?
- (A) 7
(B) 8
(C) 9
(D) 10
(E) 12

19. For all positive integers w and y , where $w > y$, let

the operation \otimes be defined by $w \otimes y = \frac{2^{w+y}}{2^{w-y}}$. For

how many positive integers w is $w \otimes 1$ equal to 4?

(A) None
(B) One
(C) Two
(D) Four
(E) More than four



20. The figure above represents four offices that will be assigned randomly to four employees, one employee per office. If Karen and Tina are two of the four employees, what is the probability that each will be assigned an office indicated with an **X**?

(A) $\frac{1}{16}$
(B) $\frac{1}{12}$
(C) $\frac{1}{6}$
(D) $\frac{1}{4}$
(E) $\frac{1}{2}$

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

24 Questions

Turn to Section 4 (page 5) of your answer sheet to answer the questions in this section.**Directions:** For each question in this section, select the best answer from among the choices given and fill in the corresponding circle on the answer sheet.

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

Example:

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

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

(A) (B) (C) (D) ●

- Edmund White is a ----- author: he has written novels, essays, short stories, a travel book, and a biography.
 (A) demonstrative (B) nebulous (C) meticulous
 (D) versatile (E) metaphoric
- The archaeologist believed the coin she unearthed was ----- evidence, unquestionable proof that the site dated to the fourth century.
 (A) immaterial (B) potential (C) incriminating
 (D) nominal (E) indisputable
- Although the rigors of ballet dancing are primarily -----, this art is also emotionally and spiritually -----.
 (A) illusory . . taxing
 (B) exaggerated . . balanced
 (C) physical . . demanding
 (D) appealing . . indulgent
 (E) strenuous . . dubious
- Studies of ----- among turtles are sometimes ----- by the fact that the subjects live so long that researchers retire before the studies can be completed.
 (A) extinction . . enhanced
 (B) longevity . . hampered
 (C) behavior . . belied
 (D) mortality . . bolstered
 (E) reproduction . . confirmed
- A model of ----- behavior, Cunningham never ate or drank to excess.
 (A) temperate (B) laconic (C) duplicitous
 (D) aesthetic (E) voluble
- The entrepreneur had a well-deserved reputation for -----, having accurately anticipated many changes unforeseen by established business leaders.
 (A) prescience (B) sincerity (C) avarice
 (D) complicity (E) mendacity
- Scientists require observable data, not -----, to support a hypothesis; sound science is grounded in ----- results rather than speculation.
 (A) induction . . diminutive
 (B) experimentation . . pragmatic
 (C) intuition . . fiscal
 (D) bombast . . theoretical
 (E) conjecture . . empirical
- The director complained that the sitcom's theme song was downright -----, having no more pep and vigor than a -----.
 (A) tedious . . jingle
 (B) inchoate . . lullaby
 (C) lugubrious . . dirge
 (D) facetious . . ballad
 (E) sprightly . . eulogy

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 between school days, we gathered hazelnuts, fished, had long deer-hunting weekends, went to powwows, beaded on looms, and made quilts. I did not question the necessity or value of our school education, but somehow I grew up knowing it wasn't the only education I would need. I'm thankful for those experiences of my Anishinaabe heritage, because now I know by heart not only the national anthem, but the ancient song of the loon. I recognize not only the alphabet and the parts of an English sentence, but the intricate language of a beaver's teeth and tail.

9. The main idea of the passage is that the author

- (A) preferred certain academic subjects over others
- (B) succeeded in learning to speak many foreign languages
- (C) valued knowledge of the natural world more than book learning
- (D) loved both family trips and tribal activities
- (E) learned many important things both in and out of school

10. The author's overall tone in this passage is best described as one of

- (A) jubilation
- (B) frustration
- (C) curiosity
- (D) appreciation
- (E) uncertainty

Questions 11-12 are based on the following passage.

Daily life is overflowing with mundane mental events. A paper clip gleams amid stacks of documents, a friend's face shines like a beacon out of a crowd, the smell of freshly baked bread evokes childhood memories— thoughts and perceptions such as these flow by with monotonous ease.

So it seems, anyway. Yet given what scientists know about how brains work, even the ability to perceive a paper clip on a messy desk represents an extraordinary and mysterious achievement.

11. In the first paragraph, the author implicitly likens our experience of sensory impressions to

- (A) an emotional roller coaster
- (B) an unobstructed stream
- (C) a repeated image
- (D) a nostalgic reminiscence
- (E) a diverting daydream

12. The primary purpose of the passage is to

- (A) celebrate life's mundane but gratifying pleasures
- (B) convey the overwhelming confusion of every-day life
- (C) explore the biological implications of a person's decisions
- (D) suggest the complexity of perceptual processes
- (E) present a scientific analysis of an automatic reflex

**Questions 13-24 are based on the following passage.**

The following passage is from a 1991 essay that discusses the debate over which authors should be taught in English classes.

Line
5 Now, what are we to make of this sputtering debate, in which charges of imperialism are met by equally passionate accusations of vandalism, in which each side hates the other, and yet each seems to have its share of reason? It occurs to me that perhaps what we have here is one of those debates in which the opposing sides, unbeknownst to themselves, share a myopia that will turn out to be the most interesting and important feature of the whole discussion, a debate, for instance, like that of the
10 Founding Fathers over the nature of the franchise. Think of all the energy and passion spent debating the question of property qualifications, or direct *versus* legislative elections, while all along, unmentioned and unimagined, was the fact—to us so central—that women and slaves
15 were never considered for any kind of vote.

While everyone is busy fighting over what should be taught in the classroom, something is being overlooked. That is the state of reading, and books, and literature in our country, at this time. Why, ask yourself, is everyone so hot
20 under the collar about what to put on the required-reading shelf? It is because, while we have been arguing so fiercely about which books make the best medicine, the patient has been slipping deeper and deeper into a coma.

Let us imagine a country in which reading was a popular
25 voluntary activity. There, parents read books for their own edification and pleasure and are seen by their children at this silent and mysterious pastime. These parents also read to their children, give them books for presents, talk to them about books, and underwrite, with their taxes, a public
30 library system that is open all day, every day. In school, the children study certain books together but also have an active reading life of their own. Years later, it may even be hard for them to remember if they read *Jane Eyre* at home and Judy Blume¹ in class or the other way around.
35 In college, young people continue to be assigned certain books, but far more important are the books they discover for themselves browsing in the library, in bookstores, on the shelves of friends, one book leading to another, back and forth in history and across languages and cultures.
40 After graduation, they continue to read and in the fullness of time produce a new generation of readers. Oh happy land! I wish we all lived there.

In that country of real readers, voluntary, active, self-determined readers, a debate like the current one over the
45 canon would not be taking place. Or if it did, it would be as a kind of parlor game: What books would you take to a desert island? Everyone would know that the top-ten list was merely a tiny fraction of the books one would read in a lifetime. It would not seem racist or sexist or hopelessly
50 hidebound to put Nathaniel Hawthorne on the list and not Toni Morrison.² It would be more like putting oatmeal

and not noodles on the breakfast menu—a choice partly arbitrary, partly a nod to the national past, and partly, dare one say it, a kind of reverse affirmative action: School
55 might frankly *be* the place where one reads the books that are a little off-putting, that have gone a little cold, that you might overlook because they do not address, in reader-friendly contemporary fashion, the issues most immediately at stake in modern life but that, with a little study, turn out
60 to have a great deal to say. Being on the list wouldn't mean so much. It might even add to a writer's cachet *not* to be on the list, to be in one way or another too heady, too daring, too exciting to be ground up into institutional fodder for teenagers. Generations of high school kids have been turned
65 off to George Eliot³ by being forced to read *Silas Marner* at a tender age. One can imagine a whole new readership for her if grown-ups were left to approach *Middlemarch* and *Daniel Deronda* with open minds, at their leisure.

¹ *Jane Eyre*, by Charlotte Brontë, is a nineteenth-century novel. Judy Blume writes contemporary young adult novels.

² Hawthorne was a nineteenth-century American writer. Toni Morrison is a contemporary American writer.

³ George Eliot was the pseudonym of a nineteenth-century female British novelist.

13. According to the author, too much energy today is spent debating
- (A) how to improve the education system
 - (B) how to make literature seem relevant
 - (C) who the better writers are
 - (D) what students should read in school
 - (E) whether or not to teach classic works
14. In the first two paragraphs of the passage (lines 1-23), the author suggests that both sides of the debate
- (A) neglect a fundamental issue
 - (B) disregard a key piece of evidence
 - (C) ignore opposing views
 - (D) lack a historical perspective
 - (E) dismiss a valuable tradition



15. The author invokes “the Founding Fathers” (lines 9-10) chiefly in order to
- (A) appeal to the reader’s sense of patriotism
 - (B) introduce a historical parallel
 - (C) examine the history of legislative debate
 - (D) remind the reader how attitudes change over time
 - (E) suggest that progress is compatible with tradition
16. In line 18, “state” most nearly means
- (A) government
 - (B) territory
 - (C) condition
 - (D) scale
 - (E) mood
17. In line 23, the “coma” represents the
- (A) rebellion of students against traditional texts
 - (B) lack of enthusiasm for reading in general
 - (C) scarcity of books on official reading lists
 - (D) difficulty of understanding archaic language
 - (E) negative effects of popular media
18. In lines 24-27 (“Let . . . pastime”), the country described is noteworthy because
- (A) people have allowed new interests to develop from their reading
 - (B) parents demonstrate their enjoyment of reading
 - (C) children learn to read at an early age
 - (D) children and parents share many activities
 - (E) writing is viewed as a valuable skill
19. Lines 30-39 (“In school . . . cultures”) present a model of education where students learn to
- (A) value cultural diversity over tradition
 - (B) respect the views of both sides of the debate
 - (C) reflect critically on the nature of American schooling
 - (D) differentiate between classic and contemporary works
 - (E) explore the world through wide-ranging reading
20. In lines 33-34, the author cites *Jane Eyre* and Judy Blume primarily in order to
- (A) propose that a love of reading might blur a commonly perceived distinction
 - (B) show that younger readers cannot distinguish between literature of different eras
 - (C) argue that most modern novels have no lasting impact on readers
 - (D) observe that classic literature has great appeal for even reluctant readers
 - (E) indicate that certain works are interchangeable
21. In lines 35-39 (“In college . . . cultures”), the education illustrated is best described as
- (A) elitist
 - (B) philanthropic
 - (C) eclectic
 - (D) methodical
 - (E) rudimentary
22. In lines 54-60 (“School . . . say”), the author describes a world in which schools teach books that are
- (A) interesting
 - (B) celebrated
 - (C) uncontroversial
 - (D) not obviously relevant
 - (E) not likely to inspire
23. Lines 60-64 (“Being . . . teenagers”) suggest that excluding a book from a reading list might
- (A) enhance the reputation of the book’s author
 - (B) encourage students to protest the decision
 - (C) influence course curricula nationwide
 - (D) appease conservative parents
 - (E) disappoint the book’s fans
24. The main purpose of the passage is to
- (A) shift the focus of a debate
 - (B) support one side in a debate
 - (C) suggest a practical solution
 - (D) revive a discredited idea
 - (E) promote certain kinds of writing

STOP

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



SECTION 5

Time — 25 minutes

35 Questions

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

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

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

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

EXAMPLE:

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

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

(A) ● (C) (D) (E)

1. Inside famed actor Lily Langtry's private railroad car were a drawing room with a piano, bath fixtures of silver, and there were draperies trimmed with Brussels lace.

- (A) there were draperies trimmed with Brussels lace
- (B) draperies trimmed with Brussels lace
- (C) trimmed with Brussels lace were draperies
- (D) the draperies were trimmed with Brussels lace
- (E) draperies trimmed with Brussels lace were there

2. Samuel Adams was by no means the first American to espouse the democratic cause, but he has been the first who conceived the party machinery that made it practical.

- (A) has been the first who conceived
- (B) had been the first who conceived
- (C) was the first having conceived
- (D) was the first to conceive
- (E) having been the first to conceive

3. The plans were made too hastily, without enough thought behind it.
- (A) too hastily, without enough thought behind it
 - (B) too hasty, without enough thought behind it
 - (C) too hastily, without enough thought behind them
 - (D) too hasty, and there is not enough thought behind them
 - (E) too hastily, and there is not enough thought behind it
4. Many psychologists do not use hypnosis in their practices, it is because they know very little about it and are wary of it as a result.
- (A) practices, it is because they know very little about it and are wary of it as a result
 - (B) practices because they know very little about it and are therefore wary of it
 - (C) practices for the reason that they know very little about it, with resulting wariness
 - (D) practices because of knowing very little about it and therefore they are wary of it
 - (E) practices, their knowledge of it being very little results in wariness of it
5. No two of the specimens was sufficiently alike to warrant them being called members of a single species.
- (A) was sufficiently alike to warrant them being called
 - (B) was sufficiently alike to warrant the calling of them
 - (C) was sufficiently alike to warrant their being called
 - (D) were sufficiently alike to warrant the calling of them
 - (E) were sufficiently alike to warrant calling them

GO ON TO THE NEXT PAGE



6. My grandson thinks he can cook better than any other person at the fair; and he has the blue ribbons to prove it.
- (A) My grandson thinks he can cook better than any other person at the fair; and he
- (B) My grandson thinks he can cook better than any other person at the fair, and he
- (C) My grandson thinks he can cook better than any person at the fair, consequently he
- (D) To think he can cook better than any other person at the fair, my grandson
- (E) Thinking he can cook better than any other person at the fair, my grandson
7. Differing only slightly from the Greeks were the Roman theaters, which were often freestanding rather than part of a hillside.
- (A) Differing only slightly from the Greeks were the Roman theaters, which
- (B) Differing only slightly from Greek theaters, Roman theaters
- (C) Differing only in the slightest from the Greeks were the Roman theaters, which
- (D) The Greeks differed only slightly from the Romans, they
- (E) The Greek theaters differed from the Roman theaters only slightly, where they
8. When chronological order is followed too mechanically, they are obscuring rather than clarifying important relationships.
- (A) When chronological order is followed too mechanically, they are obscuring rather than clarifying important relationships.
- (B) When chronological order is followed too mechanically, it obscures rather than clarifying important relationships.
- (C) Chronological order, if too mechanically followed, obscures rather than it clarifies important relationships.
- (D) Chronological order, if followed too mechanically, obscures rather than clarifies important relationships.
- (E) If you follow a too mechanical chronological order, it obscures rather than clarifies important relationships.
9. Small marine crustaceans known as krill are often fed to farm animals, but there is not much human consumption.
- (A) animals, but there is not much human consumption
- (B) animals, but consumption is not done much by people
- (C) animals but are rarely eaten by people
- (D) animals, but eating them is rarely done by humans
- (E) animals, but among people there is not much consumption
10. The educator's remarks stressed that well-funded literacy programs are needed if everyone is to gain the skills required for survival in society.
- (A) that well-funded literacy programs are needed if everyone is to gain
- (B) that well-funded literacy programs needed in gaining
- (C) there is a need of well-funded literacy programs for everyone will gain
- (D) a need for well-funded literacy programs and everyone will gain
- (E) why well-funded literacy programs being necessary for everyone in gaining
11. The Portuguese musical tradition known as *fado*, or "fate," has been called the Portuguese blues because of their songs that bemoan someone's misfortune, especially the loss of romantic love.
- (A) of their songs that bemoan someone's
- (B) of their songs bemoaning their
- (C) its songs bemoan
- (D) the songs that bemoaned
- (E) of how it bemoans their



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

EXAMPLE:

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

(A) ● (C) (D) (E)

12. Every year, toy manufacturers gather groups of
 A
 children into playrooms, observing their choices of
 toys as predicting which new products will become
 B C
 the most popular . No error
 D E
13. During the last fifty years, we come to take radio
 A B C
 communication for granted, but the mere suggestion
 that we could communicate in such a fashion
 D
 must once have seemed outlandish. No error
 E
14. The uncompromising tone of a recent city hall
 A
 ordinance concerning the blocking of emergency
 B
 vehicles in traffic jams carry a stern warning to
 C D
 motorists. No error
 E
15. Formed by volcanic eruptions over the last five
 A
 million years, the Hawaiian Islands containing an
 B
incredibly wide variety of species—many found
 C
nowhere else on Earth. No error
 D E
16. Because the owl is usually nocturnal plus being
 A B
 virtually noiseless in flight, it is seldom seen by the
 C D
 casual observer. No error
 E
17. An economical and efficient recycling center
 A
is accessible to the public, responsive to community
 B
 needs, and comply with current federal regulations
 C
governing waste disposal. No error
 D E
18. Jean Toomer was not only the author of *Cane*, a
 A
 novel whose publication has been viewed as marking
 B C
 the beginning of the Harlem Renaissance, but also
 a respected advisor among Quakers . No error
 D E
19. Election returns came in from upstate New York
 A
quite rapid , but the results from New York City
 B
were known even faster . No error
 C D E

GO ON TO THE NEXT PAGE 



20. As we rely more and more on the Internet, your need
A B
for effective security planning and design to safeguard
C
data has increased. No error
D E
21. The book is essentially a detailed and
A
very well documented record of what happened
B C
to each of the protestors. No error
D E
22. Experts agree that permanently modifying eating and
A
exercise habits rather than merely dieting for brief
B
periods are the key to controlling weight. No error
C D E
23. The ability to control the plots of our dreams is
A B
a skill, researchers have shown, that we can learn
C
if you want to change recurrent dreams. No error
D E
24. In swimming as to soccer, Evangelina proved time
A B
after time to be an abler competitor than Juanita.
C D
No error
E
25. The common cold is one of our most indiscriminate
A
diseases; it makes no distinction between
B C
you and me, millionaires and paupers, or athletes and
D
couch potatoes. No error
E
26. Like his other cookbooks, in his new book
A
Chef Louis offers lengthy explanations of what
B
he considers to be basic cooking principles. No error
C D E
27. Paul Ecke, flower grower and hybridizer, became
A
known as “Mr. Poinsettia” after developing new
B
varieties of the flower and by pioneering it
C
as a living symbol of Christmas. No error
D E
28. Long thought of as a quiet, stuffy place
A B
where people just borrowed books, libraries
C
have been changing their images dramatically
D
over the last few years. No error
E
29. To understand twentieth-century economic practices,
A
we must be sufficiently familiar with Keynesian
B C
theories, whether one agrees with them or not.
D
No error
E



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

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

Questions 30-35 refer to the following passage.

(1) Not many children leave elementary school and they have not heard of Pocahontas' heroic rescue of John Smith from her own people, the Powhatans. (2) Generations of Americans have learned the story of a courageous Indian princess who threw herself between the Virginia colonist and the clubs raised to end his life. (3) The captive himself reported the incident. (4) According to that report, Pocahontas held his head in her arms and laid her own upon his to save him from death.

(5) But can Smith's account be trusted? (6) Probably it cannot, say several historians interested in dispelling myths about Pocahontas. (7) According to these experts, in his eagerness to find patrons for future expeditions, Smith changed the facts in order to enhance his image. (8) Portraying himself as the object of a royal princess' devotion may have merely been a good public relations ploy. (9) Research into Powhatan culture suggests that what Smith described as an execution might have been merely a ritual display of strength. (10) Smith may have been a character in a drama in which even Pocahontas was playing a role.

(11) As ambassador from the Powhatans to the Jamestown settlers, Pocahontas headed off confrontations between mutually suspicious parties. (12) Later, after her marriage to colonist John Rolfe, Pocahontas traveled to England, where her diplomacy played a large part in gaining support for the Virginia Company.

30. What is the best way to deal with sentence 1 (reproduced below) ?

Not many children leave elementary school and they have not heard of Pocahontas' heroic rescue of John Smith from her own people, the Powhatans.

- (A) Leave it as it is.
 (B) Switch its position with that of sentence 2.
 (C) Change "leave" to "have left".
 (D) Change "and they have not heard" to "without having heard".
 (E) Remove the comma and insert "known as the".
31. In context, which of the following is the best way to revise the underlined wording in order to combine sentences 3 and 4 ?
- The captive himself reported the incident. According to that report, Pocahontas held his head in her arms and laid her own upon his to save him from death.*
- (A) The captive himself reported the incident, according to which
 (B) Since then, the captive reported the incident, which said that
 (C) Consequently, the captive himself reports that
 (D) It seems that in the captive's report of the incident he says that
 (E) According to the captive's own report of the incident,
32. Which of the following phrases is the best to insert at the beginning of sentence 10 to link it to sentence 9 ?
- (A) Far from being in mortal danger,
 (B) If what he says is credible,
 (C) What grade school history never told you is this:
 (D) They were just performing a ritual, and
 (E) But quite to the contrary,



33. Which of the following best describes the relationship between sentences 9 and 10 ?
- (A) Sentence 10 concludes that the theory mentioned in sentence 9 is wrong.
 - (B) Sentence 10 adds to information reported in sentence 9.
 - (C) Sentence 10 provides an example to illustrate an idea presented in sentence 9.
 - (D) Sentence 10 poses an argument that contradicts the point made in sentence 9.
 - (E) Sentence 10 introduces a new source that confirms the claims made in sentence 9.
34. Which of the following would be the best sentence to insert before sentence 11 to introduce the third paragraph?
- (A) It is crucial to consider the political successes as well as the shortcomings of Pocahontas.
 - (B) The Pocahontas of legend is the most interesting, but the historical Pocahontas is more believable.
 - (C) If legend has overemphasized the bravery of Pocahontas, it has underplayed her political talents.
 - (D) To really know Pocahontas, we must get beyond myth and legend to the real facts about her private life.
 - (E) Perhaps we will never really know the real Pocahontas.
35. What information is most logical to add immediately after sentence 12 ?
- (A) How Rolfe and Pocahontas happened to meet and marry
 - (B) Details about other versions of the legend concerning John Smith
 - (C) Reasons for the confrontations between the Powhatans and the Jamestown settlers
 - (D) An account of Rolfe's life and work in Virginia
 - (E) A brief summary of the other public events in Pocahontas' life

STOP

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



SECTION 6
Time — 25 minutes
18 Questions

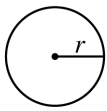
Turn to Section 6 (page 6) of your answer sheet to answer the questions in this section.

Directions: This section contains two types of questions. You have 25 minutes to complete both types. For questions 1-8, solve each problem and decide which is the best of the choices given. Fill in the corresponding circle on the answer sheet. You may use any available space for scratchwork.

Notes

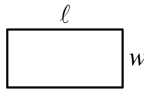
1. The use of a calculator is permitted.
2. All numbers used are real numbers.
3. Figures that accompany problems in this test are intended to provide information useful in solving the problems. They are drawn as accurately as possible EXCEPT when it is stated in a specific problem that the figure is 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

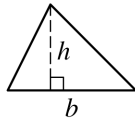


$$A = \pi r^2$$

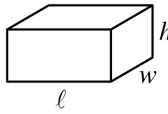
$$C = 2\pi r$$



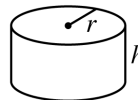
$$A = \ell w$$



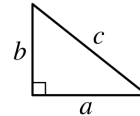
$$A = \frac{1}{2}bh$$



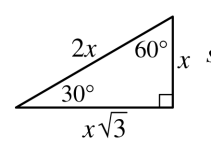
$$V = \ell wh$$



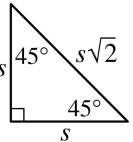
$$V = \pi r^2 h$$



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

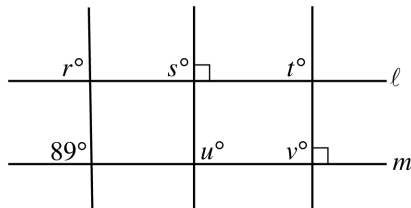


Special Right Triangles



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

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



1. The figure above shows five lines. If $\ell \parallel m$, which of the following is NOT equal to 90°?

- (A) r
(B) s
(C) t
(D) u
(E) v

2. Which of the following is divisible by 3 and by 5 but is not divisible by 10?

- (A) 30
(B) 35
(C) 40
(D) 45
(E) 60

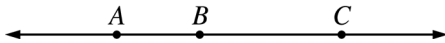
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t	0	1	2	3
$f(t)$	-1	1	3	5

3. The table above gives values of the function f for several values of t . If the graph of f is a line, which of the following defines $f(t)$?

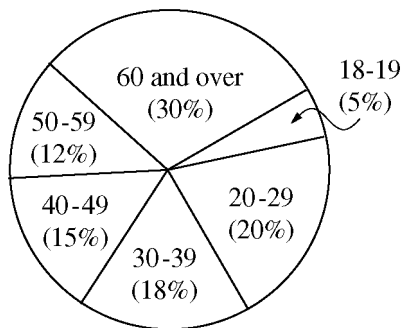
- (A) $f(t) = t - 1$
 (B) $f(t) = t + 1$
 (C) $f(t) = 2t + 1$
 (D) $f(t) = 2t - 1$
 (E) $f(t) = 1 - 2t$



4. In the figure above, the intersection of ray \overrightarrow{AC} and ray \overrightarrow{BA} is

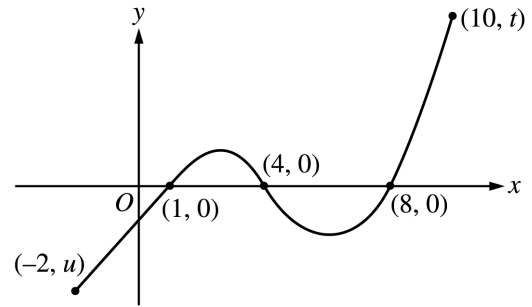
- (A) Segment \overline{AC}
 (B) Segment \overline{AB}
 (C) Ray \overrightarrow{AC}
 (D) Ray \overrightarrow{BA}
 (E) Line \overleftrightarrow{AC}

AGE DISTRIBUTION OF REGISTERED VOTERS IN WASHINGTON COUNTY



5. According to the graph above, if there are 6,000 registered voters aged 60 and over in Washington County, how many registered voters are under the age of 30?

- (A) 1,000
 (B) 2,000
 (C) 3,000
 (D) 4,000
 (E) 5,000



6. Based on the graph of the function f above, what are the values of x for which $f(x)$ is positive?

- (A) $-2 \leq x < 1$ or $8 < x \leq 10$
 (B) $-2 \leq x < 1$ or $4 < x < 8$
 (C) $1 < x < 4$ or $8 < x \leq 10$
 (D) $-2 \leq x \leq 10$
 (E) $1 < x < 8$

7. Bernardo drives to work at an average speed of 50 miles per hour and returns along the same route at an average speed of 25 miles per hour. If his total travel time is 3 hours, what is the total number of miles in the round-trip?

- (A) 225
 (B) 112.5
 (C) 100
 (D) 62.5
 (E) 50

8. If x and y are integers such that $x^2 = 64$ and $y^3 = 64$, which of the following could be true?

- I. $x = 8$
 II. $y = -4$
 III. $x + y = -4$

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

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.

Write answer in boxes. →

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

	7	/	1	2
	○	●	○	○
	○	○	○	○
(1)	1	1	1	1
(2)	2	2	2	2
(3)	3	3	3	3
(4)	4	4	4	4
(5)	5	5	5	5
(6)	6	6	6	6
(7)	7	7	7	7
(8)	8	8	8	8
(9)	9	9	9	9

← Fraction line

Grid in result. →

Answer: 2.5

	2	.	5
	○	○	○
	○	○	○
(1)	1	1	1
(2)	2	2	2
(3)	3	3	3
(4)	4	4	4
(5)	5	5	5
(6)	6	6	6
(7)	7	7	7
(8)	8	8	8
(9)	9	9	9

← Decimal point

Answer: 201
Either position is correct.

	2	0	1
	○	○	○
	○	○	○
(1)	1	1	1
(2)	2	2	2
(3)	3	3	3
(4)	4	4	4

	2	0	1
	○	○	○
	○	○	○
(1)	1	1	1
(2)	2	2	2
(3)	3	3	3
(4)	4	4	4

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

- Mark no more than one circle in any column.
- Because the answer sheet will be machine-scored, **you will receive credit only if the circles are filled in correctly.**
- Although not required, it is suggested that you write your answer in the boxes at the top of the columns to help you fill in the circles accurately.
- Some problems may have more than one correct answer. In such cases, grid only one answer.
- No question has a negative answer.
- **Mixed numbers** such as $3\frac{1}{2}$ must be gridded as

3.5 or $7/2$. (If

3	/	2
○	○	○

 is gridded, it will be interpreted as $\frac{31}{2}$, not $3\frac{1}{2}$.)

- **Decimal Answers:** If you obtain a decimal answer with more digits than the grid can accommodate, it may be either rounded or truncated, but it must fill the entire grid. For example, if you obtain an answer such as 0.6666..., you should record your result as .666 or .667. **A less accurate value such as .66 or .67 will be scored as incorrect.**

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

	2	/	3
	○	○	○
	○	○	○
(1)	1	1	1
(2)	2	2	2
(3)	3	3	3
(4)	4	4	4
(5)	5	5	5
(6)	6	6	6

	.	6	6	6
	○	○	○	○
	○	○	○	○
(1)	1	1	1	1
(2)	2	2	2	2
(3)	3	3	3	3
(4)	4	4	4	4
(5)	5	5	5	5
(6)	6	6	6	6

	.	6	6	7
	○	○	○	○
	○	○	○	○
(1)	1	1	1	1
(2)	2	2	2	2
(3)	3	3	3	3
(4)	4	4	4	4
(5)	5	5	5	5
(6)	6	6	6	6

9. When a certain number is multiplied by $\frac{1}{4}$ and the product is then multiplied by 32, the result is 60. What is the number?

10. What is the greatest integer value of x for which $2x - 20 < 0$?

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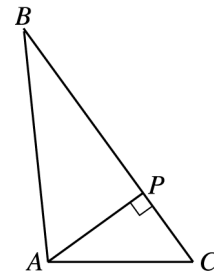
11. An object thrown upward from a height of h feet with an initial velocity of v feet per second will reach a maximum height of $h + \frac{v^2}{64}$ feet. If the object is thrown upward from a height of 6 feet with an initial velocity of 32 feet per second, what will be its maximum height, in feet?

12. The three angles of a triangle have measures of x° , $2x^\circ$, and y° , where $x > 55$. If x and y are integers, what is one possible value of y ?

CARMEN'S EXPENSES

	Meals	Hotel	Total
Wednesday	\$30		
Thursday	\$25		
Friday	\$26		
Total			\$291

13. The incomplete table above is an expense sheet for Carmen's business trip. If her hotel expenses were the same each day, what were her total expenses for Friday, in dollars? (Disregard the \$ sign when gridding your answer.)



14. In $\triangle ABC$ above, $AC = 5$, $PC = 3$, and $BP = 4\sqrt{3}$. What is the length of \overline{AB} ?

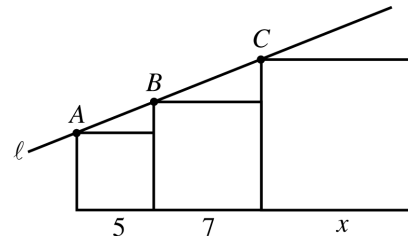
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15. On Monday morning Mr. Smith had a certain amount of money that he planned to spend during the week. On each subsequent morning, he had one fourth the amount of the previous morning. On Saturday morning, 5 days later, he had \$1. How many dollars did Mr. Smith originally start with on Monday morning? (Disregard the \$ sign when gridding your answer.)

16. The median of a list of 99 consecutive integers is 60. What is the greatest integer in the list?

17. When the positive integer m is divided by 5, the remainder is 3. What is the remainder when $20m$ is divided by 25?



18. The figure above shows three squares with sides of length 5, 7, and x , respectively. If A , B , and C lie on line ℓ , what is the value of 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.



SECTION 7
Time — 25 minutes
24 Questions

Turn to Section 7 (page 6) of your answer sheet to answer the questions in this section.

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

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

Example:

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

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

(A) (B) (C) (D) ●

1. The success of *Notes of a Native Son* ----- author James Baldwin as one of the most ----- essayists of his time.
 - (A) buoyed . . irrelevant
 - (B) established . . prominent
 - (C) surrendered . . prolific
 - (D) decried . . cynical
 - (E) categorized . . mundane
2. In many parts of the world, people use rice as a central rather than a ----- part of their daily diets.
 - (A) pivotal (B) ritualistic (C) salient
 - (D) supplementary (E) solemn
3. Victor gained a reputation for being a ----- because he constantly bullied other children.
 - (A) bungler (B) ruffian (C) stickler
 - (D) daredevil (E) naysayer
4. Paradoxically, the senator was both a ----- and -----: she publicly defended the rights and wisdom of the people, but she often spoke with a disdainful air of superiority.
 - (A) demagogue . . a maverick
 - (B) conservative . . an anarchist
 - (C) populist . . an elitist
 - (D) moderate . . a reactionary
 - (E) partisan . . a snob
5. The geologist speculated that eons ago, before the area was -----, the present-day island was actually a hilltop in a vast forest.
 - (A) inundated (B) situated (C) rejuvenated
 - (D) supplanted (E) excavated

GO ON TO THE NEXT PAGE 



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

Questions 6-9 are based on the following passages.

Passage 1

Line Any wildlife biologist can tell you how many deer
5 a given area can support—how much browse there is
for the deer to eat before they begin to suppress the
reproduction of trees, before they begin to starve in
the winter. Any biologist can calculate how many
wolves a given area can support too, in part by
counting the number of deer. And so on, up and
down the food chain. It's not an exact science, but
10 it comes pretty close—at least compared to figuring
out the carrying capacity of Earth for human beings,
which is an art so dark that anyone with any sense
stays away from it.

Passage 2

15 Estimates of the number of humans that Earth can
sustain have ranged in recent decades from fewer than
a billion to more than a trillion. Such elasticity is prob-
ably unavoidable, since “carrying capacity” is essentially
a subjective term. It makes little sense to talk about carry-
ing capacity in relationship to humans, who are capable of
20 adapting and altering both their culture and their physical
environment, and can thus defy any formula that might
settle the matter. The number of people that Earth can
support depends on how we on Earth want to live, on
what we want to consume, and on what we regard as
a crowd.

6. Both passages support which of the following conclusions about Earth's carrying capacity for humans?
- (A) It is routinely underestimated by biologists.
 - (B) It cannot be easily determined, given numerous variables and unknowns.
 - (C) It has only recently become the subject of considerable scientific debate.
 - (D) It is a valuable concept despite its apparent shortcomings.
 - (E) It has increased as a result of recent technological innovations.

7. The author of Passage 1 refers to “Any wildlife biologist” in line 1 and “Any biologist” in line 5 to emphasize the point that
- (A) a particular type of calculation can be made with great confidence
 - (B) scientific findings often meet with resistance from the general public
 - (C) certain beliefs are rarely questioned by scientists
 - (D) most biologists are concerned with issues related to wildlife mortality
 - (E) all biologists must be skilled at applying mathematical formulas
8. Both authors would agree that the “Estimates” (Passage 2, line 13) are
- (A) overly generous
 - (B) largely undocumented
 - (C) often misunderstood
 - (D) politically motivated
 - (E) essentially unreliable
9. Which of the following best describes the relationship between the two passages?
- (A) Passage 1 offers a hypothesis that is explicitly refuted in Passage 2.
 - (B) Passage 1 describes a popular misconception that is exemplified by Passage 2.
 - (C) Passage 2 presents an argument that elaborates on a point made in Passage 1.
 - (D) Passage 2 defends a position that is attacked in Passage 1.
 - (E) Passage 2 provides an anecdote that confirms the theory advanced in Passage 1.



Questions 10-15 are based on the following passage.

The passage below is excerpted from the introduction to a collection of essays published in 1994.

Line My entry into Black women’s history was serendipitous. In the preface to *Black Women in America: An Historical Encyclopedia*, I recount the story of exactly how Shirley Herd (who, in addition to teaching in the local school system, was also president of the Indianapolis chapter of the National Council of Negro Women) successfully provoked me into changing my research and writing focus. Although I dedicate this volume to her and to her best friend, fellow club woman and retired primary school teacher Virtea Downey, I still blush at the fact that I went to graduate school to become a historian in order to contribute to the Black Struggle for social justice and yet met her request to write a history of Black women in Indiana with condescension. I had never even thought about Black women as historical subjects with their own relations to a state’s history, and I thought her invitation and phone call extraordinarily intrusive. Only later did I concede how straightforward and reasonable had been her request to redress a historical omission. Black women were conspicuous by their absence. None of the social studies texts or state histories that Herd and Downey had used to teach their students made mention of the contributions of Black women. Since historians had left them out, Herd reasoned, only a “real” historian could put them in, and since I was the only tenured* Black woman historian in the state of Indiana at that time, the task was mine.

Herd rejected my reservations and completely ignored my admonitions that she could not call up a historian and order a book the way you drive up to a fast-food restaurant and order a hamburger. In spite of my assertions of ignorance about the history of Black women in Indiana and my confession of having never studied the subject in any history course or examined any manuscript sources pertaining to their lives, Herd persevered. Black women, as historical subjects and agents, were as invisible to me as they had been to school textbook writers.

Undaunted by my response, Herd demanded that I connect (thankfully without perfect symmetry) my biology and autobiography, my race and gender, my being a Black woman, to my skill as a historian, and write for her and for the local chapter members of the National Council a history of Black women in Indiana. I relented and wrote the book, *When the Truth Is Told: Black Women’s Culture and Community in Indiana, 1875-1950*, as requested. In the process, I was both humbled and astounded by the array of rich primary source materials Herd, Downey, and the other club women had spent two years collecting. There were diaries, club notes, church souvenir booklets, photographs, club minutes, birth, death, and marriage certificates, letters, and handwritten county and local histories. Collectively

this material revealed a universe I never knew existed in spite of having lived with Black women all of my life . . . and being one myself. Or perhaps more accurately, I knew a universe of Black women existed. I simply had not envisioned its historical meaning.

* tenure: a permanent position, often granted to a teacher after a specified number of years of demonstrated competence

10. The primary purpose of the passage is to show how the author
 - (A) discovered Black women’s history when she was in graduate school
 - (B) became a historian to help Black people in America achieve social justice
 - (C) developed her research skills by undertaking a challenging project
 - (D) became a more renowned scholar due to the influence of two interesting individuals
 - (E) came to view Black women as a worthy subject for historical analysis
11. The first sentence indicates that the author’s “entry” (line 1) was
 - (A) troublesome but worthwhile
 - (B) challenging but rewarding
 - (C) fortunate and inevitable
 - (D) unexpected but agreeable
 - (E) startling and provocative
12. The author initially responded to Herd’s request “with condescension” (lines 13-14) because the author
 - (A) knew that Herd had not been to graduate school
 - (B) believed that historians should avoid controversial projects
 - (C) had too many other projects requiring her attention
 - (D) rejected Herd’s contention that such a history would address the Black struggle for social justice
 - (E) viewed Herd’s request as irrelevant and presumptuous
13. The comparison in lines 27-30 (“Herd . . . hamburger”) primarily demonstrates the author’s belief that historians
 - (A) do not usually accept pay for their work
 - (B) are frequently unassuming about their profession
 - (C) do not generally undertake projects on request
 - (D) spend a comparatively long time on their projects
 - (E) do not generally interact with members of the public





14. Lines 30-34 (“In spite . . . persevered”) suggest that the author believed that
- (A) her lack of scholarly training on this topic was a reason to be embarrassed
 - (B) primary source materials on this subject would be difficult to find
 - (C) historians should conduct research in the areas in which they have expertise
 - (D) the lives of Black women in Indiana were historically interesting and complex
 - (E) Herd wanted her to conduct research on a topic of general interest
15. The last two sentences (“Or perhaps . . . meaning”) primarily indicate that the author
- (A) knew that Black women contributed to society, but she did not understand the significance of their contributions
 - (B) believed that the diversity of Black women’s experiences would make them difficult to write about
 - (C) assumed that because Black women are not frequently studied by historians, they would not be an acceptable topic for a book
 - (D) believed that Black women wield political power only in contemporary times
 - (E) was aware of the diversity of Black women’s lives, but was not willing to write about them



Questions 16-24 are based on the following passage.

This passage, from a short story published in 1978, describes a visit to a planetarium, a building in which images of stars, planets, and other astronomical phenomena are projected onto a domed ceiling.

Line
5
10
15
20
25
30
35
40
45

Inside, we sat on wonderfully comfortable seats that were tilted back so that you lay in a sort of a hammock, attention directed to the bowl of the ceiling, which soon turned dark blue, with a faint rim of light around the edge. There was some splendid, commanding music. The adults all around were shushing the children, trying to make them stop crackling their potato chip bags. Then a man's voice, an eloquent professional voice, began to speak slowly, out of the walls. The voice reminded me a little of the way radio announcers used to introduce a piece of classical music or describe the progress of the Royal Family to Westminster Abbey on one of their royal occasions. There was a faint echo-chamber effect.

The dark ceiling was filled with stars. They came out not all at once but one after another, the way stars really do come out at night, though more quickly. The Milky Way galaxy appeared, was moving closer; stars swam into brilliance and kept on going, disappearing beyond the edges of the sky-screen or behind my head. While the flow of light continued, the voice presented the stunning facts. From a few light-years away, it announced, the Sun appears as a bright star, and the planets are not visible. From a few dozen light-years away, the Sun is not visible, either, to the naked eye. And that distance—a few dozen light-years—is only about a thousandth part of the distance from the Sun to the center of our galaxy, one galaxy, which itself contains about two hundred billion stars. And is, in turn, one of millions, perhaps billions, of galaxies. Innumerable repetitions, innumerable variations. All this rolled past my head, too, like balls of lightning.

Now realism was abandoned, for familiar artifice. A model of the solar system was spinning away in its elegant style. A bright bug took off from the Earth, heading for Jupiter. I set my dodging and shrinking mind sternly to recording facts. The mass of Jupiter two and a half times that of all the other planets put together. The Great Red Spot. The thirteen moons, the icy rings of Saturn. Back to Earth and moving in to hot and dazzling Venus. Atmospheric pressure ninety times ours. Moonless Mercury rotating three times while circling the Sun twice; an odd arrangement, not as satisfying as what they used to tell us—that it rotated once as it circled the Sun. No perpetual darkness after all. Why did they give out such confident information, only to announce later that it was quite wrong? Finally, the picture already familiar from magazines: the red soil of Mars, the blooming pink sky.

50
55
60

When the show was over I sat in my seat while children clambered over me, making no comments on anything they had just seen or heard. They were pestering their keepers for eatables and further entertainments. An effort had been made to get their attention, to take it away from canned drinks and potato chips and fix it on various knowns and unknowns and horrible immensities, and it seemed to have failed. A good thing, too, I thought. Children have a natural immunity, most of them, and it shouldn't be tampered with. As for the adults who would deplore it, the ones who promoted this show, weren't they immune themselves to the extent that they could put in the echo-chamber effects, the music, the solemnity, simulating the awe that they supposed they ought to feel? Awe—what was that supposed to be? A fit of the shivers when you looked out the window? Once you knew what it was, you wouldn't be courting it.

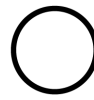
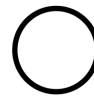
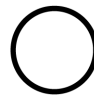
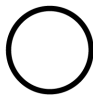
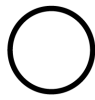
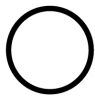
16. Which best describes the overall structure of the passage?
- (A) Narrative description followed by commentary
 - (B) Reminiscence followed by present-day application
 - (C) An account of a problem followed by a suggested solution
 - (D) A generalization followed by specific examples
 - (E) A discussion of opposing viewpoints followed by an attempt to reconcile them
17. Lines 5-7 (“The adults . . . bags”) primarily illustrate the children’s feelings of
- (A) helplessness
 - (B) restlessness
 - (C) awe
 - (D) anticipation
 - (E) irritation
18. In line 11, “progress” most nearly means
- (A) evolution
 - (B) improvement
 - (C) prosperity
 - (D) promotion
 - (E) advance
19. The first paragraph of the passage establishes a mood of
- (A) jaded dismissal
 - (B) nervous apprehension
 - (C) dramatic anticipation
 - (D) initial concern
 - (E) mundane routine



20. The words “dodging and shrinking” (line 34) primarily suggest that the narrator was
- (A) somewhat bothered by the children in the audience
 - (B) initially overwhelmed by the information being presented
 - (C) unable to admit to some troubling feelings about astronomy
 - (D) refusing to acknowledge the implications of space travel
 - (E) unwilling to believe the studies being discussed
21. In lines 40-43 (“Moonless . . . Sun”), the narrator’s comment about the “arrangement” demonstrates a preference for
- (A) irony
 - (B) inventiveness
 - (C) symmetry
 - (D) ornamentation
 - (E) ambiguity
22. In line 53, “fix” most nearly means
- (A) focus
 - (B) prepare
 - (C) repair
 - (D) decide
 - (E) influence
23. The phrase “horrible immensities” (line 54) primarily indicates
- (A) exaggerated information
 - (B) unforeseen events
 - (C) historical monstrosities
 - (D) controversial debates
 - (E) incomprehensible realities
24. The narrator suggests that the “echo-chamber effects, the music, the solemnity” (lines 59-60) are evidence that
- (A) most adults have feelings of great appreciation of the universe
 - (B) most adults would rather not attend planetarium shows
 - (C) contemporary scientists have an inflated view of the importance of their work
 - (D) the show’s promoters do not fully appreciate the true nature of the universe
 - (E) the show’s promoters understand that children are entranced by special effects

S T O P

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



SECTION 8

Time — 20 minutes

16 Questions

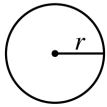
Turn to Section 8 (page 7) of your answer sheet to answer the questions in this section.

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

Notes

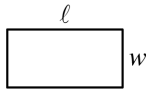
- The use of a calculator is permitted.
- All numbers used are real numbers.
- Figures that accompany problems in this test are intended to provide information useful in solving the problems. They are drawn as accurately as possible EXCEPT when it is stated in a specific problem that the figure is not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

Reference Information

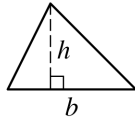


$$A = \pi r^2$$

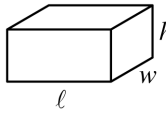
$$C = 2\pi r$$



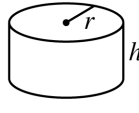
$$A = \ell w$$



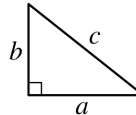
$$A = \frac{1}{2}bh$$



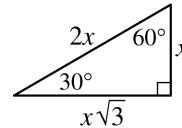
$$V = \ell wh$$



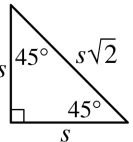
$$V = \pi r^2 h$$



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



Special Right Triangles

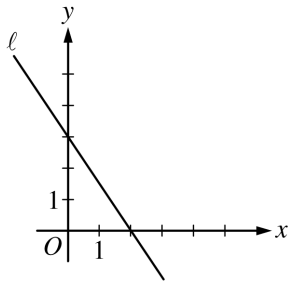
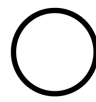
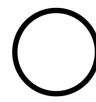
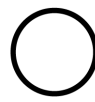
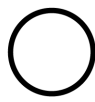
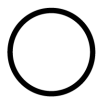
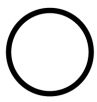


The number of degrees of arc in a circle is 360.

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

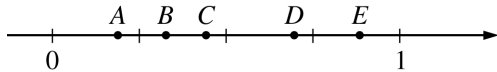
- If notebooks cost \$2 each and backpacks cost \$32 each, which of the following represents the cost, in dollars, of n notebooks and b backpacks?
 - $16nb$
 - $34nb$
 - $34(n + b)$
 - $2n + 32b$
 - $2(n + 32b)$
- The average (arithmetic mean) of 6, 19, and x is 19. What is the value of x ?
 - 19
 - 25
 - 31
 - 32
 - 57
- Ali, Ben, and Carla made a total of 20 sandwiches. Ben made 3 times as many as Ali, and Carla made twice as many as Ben. How many sandwiches did Ali make?
 - Two
 - Four
 - Five
 - Six
 - Ten
- If 0.03 percent of n is 3, what is 3 percent of n ?
 - 900
 - 600
 - 300
 - 0.006
 - 0.003

GO ON TO THE NEXT PAGE



5. What is an equation of line ℓ in the figure above?

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

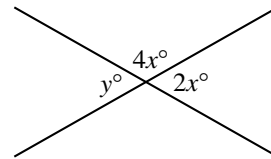


6. If the tick marks on the number line above are equally spaced, which of the lettered points A through E is between $\frac{1}{4}$ and $\frac{3}{8}$?

- (A) A
 (B) B
 (C) C
 (D) D
 (E) E

7. If $x^{-1}h = 1$, what does h equal in terms of x ?

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



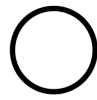
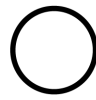
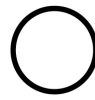
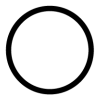
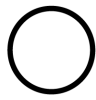
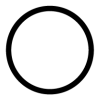
8. In the figure above, what is the value of y ?

- (A) 40
 (B) 45
 (C) 50
 (D) 60
 (E) 72

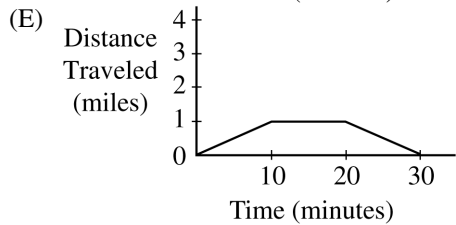
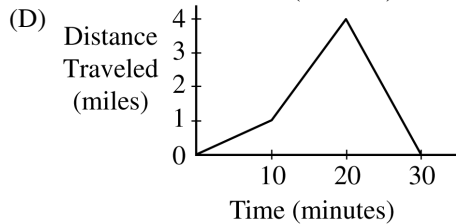
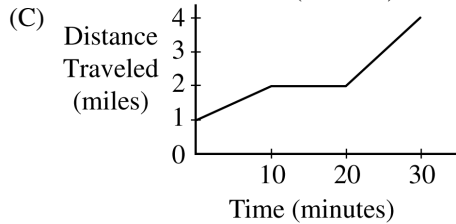
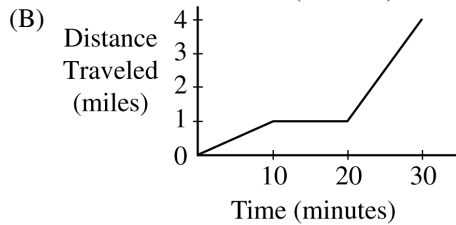
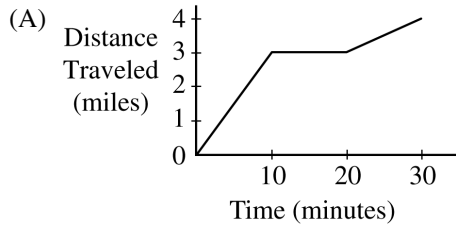
9. If $x^2 + x = 30$, which of the following is a possible value of $x^2 - x$?

- (A) -30
 (B) 10
 (C) 20
 (D) 30
 (E) 870

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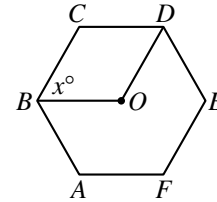


10. Mark began a 4-mile bicycle trip by riding slowly uphill for 1 mile. He rested for 10 minutes and then rode quickly downhill for the rest of the trip. Which of the following graphs could correctly represent his trip?



11. There are 6 red, 6 brown, 6 yellow, and 6 gray scarves packaged in 24 identical, unmarked boxes, 1 scarf per box. What is the least number of boxes that must be selected in order to be sure that among the boxes selected 3 or more contain scarves of the same color?

- (A) 3
(B) 6
(C) 7
(D) 8
(E) 9



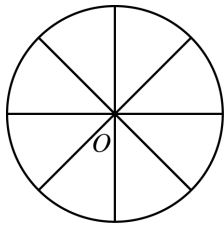
12. In the figure above, $ABCDEF$ is a regular hexagon, and its center is point O . What is the value of x ?

- (A) 80
(B) 60
(C) 40
(D) 30
(E) 20



13. Let the function f be defined by $f(x) = 5x$ for all numbers x . Which of the following is equivalent to $f(p + r)$?

- (A) $\frac{p+r}{5}$
 (B) $5p + r$
 (C) $5p + 5r$
 (D) $10(p + r)$
 (E) $25pr$



14. The circle above has an area of 25π and is divided into 8 congruent regions. What is the perimeter of one of these regions?

- (A) $10 - 25\pi$
 (B) $10 + \frac{5}{8}\pi$
 (C) $10 + \frac{5}{4}\pi$
 (D) $10 + 5\pi$
 (E) $10 + 25\pi$

$$2x - 5y = 8$$

$$4x + ky = 17$$

15. For which of the following values of k will the system of equations above have no solution?

- (A) -10
 (B) -5
 (C) 0
 (D) 5
 (E) 10

RESULTS OF BEANBAG GAME

Number of Throws	Number of People
1	7
2	6
3	6
4	4
5	2

16. In a certain game, each person threw a beanbag at a target until the person missed the target. The table shows the results for the 25 people who played the game. For example, 4 people hit the target on their first 3 throws and missed on their 4th throw. Based on the information in the table, which of the following must be true?

- I. More than half the people hit the target on their first throw.
 II. For all of the throws attempted, more hit the target than missed the target.
 III. No one hit the target 5 times.

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

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

19 Questions

Turn to Section 9 (page 7) of your answer sheet to answer the questions in this section.**Directions:** For each question in this section, select the best answer from among the choices given and fill in the corresponding circle on the answer sheet.

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

Example:

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

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

(A) (B) (C) (D) ●

- The new vaccine is ----- preventing certain forms of pneumonia and should, therefore, be more widely ----- in order to prevent outbreaks of the disease.

(A) required for . . constrained
(B) unsuccessful in . . distributed
(C) instrumental in . . reconstituted
(D) effective in . . administered
(E) unverified for . . disseminated
- In an effort to ----- the ----- theater, the troupe members contributed thousands of dollars to keep the playhouse operating.

(A) qualify . . obsolete
(B) salvage . . floundering
(C) exacerbate . . defunct
(D) revitalize . . prosperous
(E) commandeer . . lucrative
- In her writings about language, the poet Gloria Anzaldúa celebrates the ----- of English and Spanish dialects spoken by Mexican Americans, arguing that such ----- lends an empowering flexibility to expression.

(A) multiplicity . . variety
(B) proliferation . . moderation
(C) ambivalence . . focus
(D) dearth . . depletion
(E) abridgment . . imitation
- The mountain road was distinctly -----: it twisted back and forth along the contours of the hillside.

(A) panoramic (B) precipitous (C) serpentine
(D) circumscribed (E) retrograde
- At the family reunion Hiroko found her cousin charming and gentle, the ----- of his formerly rude and overbearing self.

(A) remnant (B) antithesis (C) consequence
(D) extremity (E) mainstay
- His conduct at the state dinner was a cavalcade of blunders, one ----- following another until the evening ended.

(A) query (B) gibe (C) gaffe
(D) tryst (E) tribute

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 7-19 are based on the following passages.

Both passages discuss the issue of the intelligence of dogs. Passage 1 was adapted from a 2001 book on animal intelligence. Passage 2 was written in 2001 by a dog trainer and writer.

Passage 1

Line 5 It was no accident that nineteenth-century naturalist Charles Darwin strove to connect the mentality and emotionality of people with that of dogs, rather than, say, doves or horses. Neither his theory of evolution nor any general understanding of biology demanded that he preferentially underline our similarity to dogs over other species. But politically and emotionally, the choice was inevitable for an English gentleman who had set himself the task of making the idea of evolutionary continuity palatable. Darwin wrote that “dogs possess something very similar to a conscience. They certainly possess some power of self-command. . . . Dogs have long been accepted as the very type of fidelity and obedience.”

Line 10 Darwin was not alone in his beliefs that dogs possess human virtues. The characteristics of loyalty and obedience, coupled with an expressive face and body, can account for why dogs are such popular and valued pets in many cultures. Depending on the breed and the individual, dogs can be noble, charming, affectionate, and reliable. But while all dog owners should rightly appreciate these and other endearing traits in their pets, nothing says that the cleverness of a highly intelligent primate such as a chimpanzee is part of the package. Scientists generally believe the reasoning abilities of chimps to be considerably greater than that of dogs. But many people nonetheless *believe* that dogs are smarter than chimps precisely because of our familiarity and emotional ties with the dogs that we love. We apply the same secret rules to our fellow humans: the old in-group, out-group story. People in your in-group are those who are similar to you, either because they belong to the same organizations as you, or enjoy the same activities, or, and this is the kicker, because they are simply around more often. Dogs, because of their proximity to their owners, are definitely in. The intensity of our relationship with dogs causes us, quite naturally, to imbue them with high-level mental abilities, whether they have earned those extra intelligence points or not. We like them, so we think well of them.

Passage 2

Line 40 Every dog trainer that I know had the same childhood, a childhood filled with the brilliant, heroic dogs of literature. We read about dogs who regularly traveled thousands of miles to be reunited with owners who somehow misplaced

them, repeatedly saved people from certain death, and continually exhibited a better grasp of strategic problem-solving than the average Ph.D. In the preface to one of his many dog stories, S. P. Meek a bit shamefacedly remarked that in writing of dogs “I endeavored to hold these heroes down to the level of canine intelligence, and to make them, above all, believable. If at times I seem to have made them show supercanine intelligence, it is because my enthusiasm has run away with me.” We forgave him, of course.

Line 50 It was something of a shock, therefore, to discover how the learning theory “experts” believed dogs think and learn. I was told that dogs, unlike chimpanzees, have no real reasoning ability. Dogs don’t think: rather, they learn to avoid the unpleasant (negative reinforcement), seek the pleasant (positive reinforcement), or some combination of the two. To contend otherwise was to be guilty of the sin of anthropomorphizing, the attribution to an animal of motivations and consciousness that only a human being could possess.

Line 60 Yet as a dog trainer, I find myself siding more with the Meeks than I do with the learning theorists: nobody could believe dispassionately in the totality of positive and negative reinforcement after seeing the pure intelligence shining in the face of a border collie intent upon helping a shepherd herd sheep. Dogs do think and reason. Granted, a dog might not be able to run a maze as quickly as a chimp. But a dog outshines any other animal that I know in the ability to work willingly with a human being, to communicate with a puzzling creature who often makes incomprehensible demands. Researchers have increasingly come to view intelligence as a complex collection of mental abilities that cannot be fully captured in any simple way. Dogs are geniuses at being useful, and it is this usefulness that we admire when we praise their intelligence. As Jonica Newby, a specialist in animal-human interaction, writes, “In some ways intelligence is a matter of matching behavior to environment. To compare intelligence in creatures that have evolved differently is a bit like deciding which has hit upon the best mode of travel: the dolphin or the horse.” And it is dogs, not chimps, who possess the most helpful mode of travel for human beings.

7. Unlike the author of Passage 1, the author of Passage 2 develops an argument by relying on
- (A) personal experience
 - (B) scientific observation
 - (C) historical contextualization
 - (D) statistical evidence
 - (E) direct quotation

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8. The phrase “It was no accident” (line 1) implies that the author of Passage 1 believes that Darwin
- (A) knew that the resemblance between dogs and humans could not be accounted for by his theory
 - (B) exploited the sympathies of his audience to gain support for his theory
 - (C) considered intelligence to be largely a matter of luck
 - (D) believed that the way previous authors had written about dogs was inaccurate
 - (E) wished to convince the public to celebrate the virtues of dogs
9. In line 13, “type” most nearly means
- (A) category
 - (B) model
 - (C) designation
 - (D) role
 - (E) figure
10. The italics in line 25 most directly emphasize
- (A) a misguided idea that is becoming obsolete
 - (B) a negative view that scientists adopt toward lay people
 - (C) a common criticism of dog owners
 - (D) the controversial nature of an alternative theory
 - (E) the intensity of a conviction based on sentiment
11. In line 29, the author of Passage 1 uses the word “old” to suggest that the “story” is
- (A) familiar
 - (B) historic
 - (C) fictitious
 - (D) tiresome
 - (E) outdated
12. Darwin (lines 1-13, Passage 1) and Meek (lines 45-51, Passage 2) serve as examples of
- (A) writers who had the courage to voice unpopular viewpoints
 - (B) researchers who conducted important studies on animal behavior
 - (C) people who maliciously publicized misleading information about dogs
 - (D) individuals whose writings reflect an idealized view of dog behavior
 - (E) scientists who were authorities on the issue of animal intelligence
13. In line 53, the author of Passage 2 uses quotation marks to
- (A) express anger about a prevailing belief
 - (B) demonstrate respect for a certain group of scientists
 - (C) indicate uncertainty about the precise usage of a word
 - (D) cite a term used in an unusual context
 - (E) cast doubt on the aptness of a description
14. The “experts” (line 53) would most likely argue that which of the following is guilty of the “sin” mentioned in line 58 ?
- (A) A veterinarian who is unwilling to treat a sick animal
 - (B) A cat owner who believes his cat misses its siblings
 - (C) A dog owner who is unwilling to punish her dog for misbehaving
 - (D) A zoologist who places the interests of people before those of animals
 - (E) A horse trainer who fails to recognize that his horse is hungry
15. Both the author of Passage 1 and the “experts” mentioned in line 53 of Passage 2 directly support the idea that
- (A) writers of dog stories intentionally distort the truth for dramatic purposes
 - (B) comparing the intelligence of dogs to that of chimps is a pointless enterprise
 - (C) many people have an excessive emotional attachment to their dogs
 - (D) dogs are less intelligent than many people believe
 - (E) few people are familiar with learning theory as it applies to dogs
16. Based on lines 63-67 (“nobody . . . sheep”), the author of Passage 2 would most likely appear to the author of Passage 1 as
- (A) a neutral observer of animal behavior
 - (B) well informed concerning research into animal intelligence
 - (C) having a deep fondness for border collies and therefore overestimating them
 - (D) having little respect for traditional scientific research
 - (E) having a narrow understanding of what constitutes intelligence



17. In Passage 2, lines 67-68 (“Granted . . . chimp”) principally serve to
- (A) acknowledge a flaw in a prevalent theory
 - (B) digress from a primary claim
 - (C) evoke an air of mystery
 - (D) dismiss a scientific hypothesis as unfounded
 - (E) anticipate a potential objection to an argument
18. The authors of both passages mention chimpanzees in order to
- (A) suggest that the public has a distorted view of chimpanzee intelligence
 - (B) compare the emotions of primates to those of dogs
 - (C) justify the beliefs of the public regarding the intelligence of certain animals
 - (D) criticize an eccentric scientific claim about animal intelligence
 - (E) provide an example of an animal considered to be highly intelligent
19. How do the authors of the two passages differ in their assumptions about animal intelligence?
- (A) The author of Passage 1 implies that intelligence is a single entity, whereas the author of Passage 2 suggests that intelligence can be demonstrated in many distinct ways.
 - (B) The author of Passage 1 believes that no animal can be considered truly intelligent, whereas the author of Passage 2 celebrates the reasoning power of all animals.
 - (C) The author of Passage 1 believes that intelligence can be measured, whereas the author of Passage 2 believes that such quantification would be unethical.
 - (D) The author of Passage 1 suggests that intelligence is innate, whereas the author of Passage 2 argues that it is acquired.
 - (E) The author of Passage 1 considers intelligence to be developed over time, whereas the author of Passage 2 shows that it is largely static.

STOP

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



SECTION 10
Time — 10 minutes
14 Questions

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

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

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

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

EXAMPLE:

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

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

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

1. The sales assistant arranged the gems on the counter, he proceeded to tell us about the origins of each stone.
 - (A) The sales assistant arranged the gems on the counter, he
 - (B) The gems, which were arranged on the counter by the sales assistant, who
 - (C) The gems were first arranged on the counter by the sales assistant, then
 - (D) After arranging the gems on the counter, the sales assistant
 - (E) The sales assistant, having arranged the gems on the counter, he
2. A whistle-blower is when an employee reports fraud or mismanagement in a company.
 - (A) when an employee reports fraud or mismanagement
 - (B) an employee who reports fraud or mismanagement
 - (C) reporting by an employee of fraud or mismanagement
 - (D) if an employee reports fraud or mismanagement
 - (E) fraud or mismanagement being reported by an employee
3. After Eliza, the heroine of Shaw's *Pygmalion*, is transformed from a flower girl into a gentlewoman, she realizes that one's social class matters less than your character.
 - (A) she realizes that one's social class matters less than your
 - (B) she realizes that one's social class matters less than one's
 - (C) then realizing that one's social class matters less than their
 - (D) having realized how social class matters less than
 - (E) there is her realization about how social class matters less than
4. Knowing the roots of words that are hard to spell helps students to become a better speller.
 - (A) helps students to become a better speller
 - (B) is helpful to students who want to be a better speller
 - (C) helps students to become better spellers
 - (D) is helpful to students in becoming a better speller
 - (E) helps a student be better spellers

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5. Most experts believe that young children's not being given physical affection, this interferes with their normal development.
- (A) young children's not being given physical affection, this interferes
 (B) for young children who have had physical affection withheld from them, it interferes
 (C) the failure at giving young children physical affection would interfere
 (D) when withholding physical affection from young children, it interferes
 (E) the withholding of physical affection from young children interferes
6. Electronic bulletin boards, combining the convenience of a telephone with the massive information storage capacity of a computer, present messages on diverse subjects as astronomy, artificial intelligence, and skydiving.
- (A) diverse subjects as
 (B) diverse subjects that are
 (C) subjects of such diversity as
 (D) subjects as diverse as
 (E) a subject as diverse as
7. Free from British rule after the American Revolution, a strong central government was an idea that many of the representatives attending the Constitutional Convention were wary of.
- (A) a strong central government was an idea that many of the representatives attending the Constitutional Convention were wary of
 (B) the idea of a strong central government made wary many of the representatives attending the Constitutional Convention
 (C) many of the representatives attending the Constitutional Convention were wary of a strong central government
 (D) many representatives at the Constitutional Convention felt wary toward a strong central government
 (E) many representatives at the Constitutional Convention, wary of a strong central government
8. Being cleaner and longer-burning compared with bituminous coal, anthracite was the first coal widely used in the United States for both domestic and industrial purposes.
- (A) Being cleaner and longer-burning compared with
 (B) Both cleaner and more longer-burning compared to
 (C) Cleaner and longer-burning than
 (D) By burning longer and more clean than
 (E) Cleaner as well as longer-burning, unlike
9. At graduation, the speaker assured us that our many courses in the liberal arts had prepared us equally well for the challenges of working and further study.
- (A) had prepared us equally well for the challenges of working and further study
 (B) had prepared us equally well for the challenges of work and of further study
 (C) has supplied the preparation for challenging work along with further study
 (D) leaves us prepared for the challenges of work and further study both
 (E) were the preparation for making the challenges of work or further study easier
10. Modern bluegrass songs, telling of love and despair and celebrating mountain beauty, reflect the genre's rural origins.
- (A) Modern bluegrass songs, telling of love and despair and celebrating mountain beauty,
 (B) Modern bluegrass songs through their telling of love and despair and celebrating mountain beauty,
 (C) Because modern bluegrass songs tell of love and despair and also celebrating mountain beauty, they
 (D) With modern bluegrass songs that tell of love and despair and celebrate mountain beauty, they
 (E) Telling of love and despair, modern bluegrass songs celebrating mountain beauty, and they also



11. The fruit fly is often used to study genetic mechanisms, because it reproduces rapidly scientists can observe the effects of experiments on several generations.
- (A) mechanisms, because it reproduces rapidly
 (B) mechanisms, since it reproduces rapidly,
 (C) mechanisms, since, with its rapid reproduction,
 (D) mechanisms; because it reproduces rapidly,
 (E) mechanisms; then rapid reproduction allows
12. Benin was the first sub-Saharan African country to experience a “civilian coup”: they were a regime that was dominated by the armed forces and obliged by citizens to implement democratic reforms.
- (A) they were a regime that was dominated by the armed forces and obliged by
 (B) they had been a regime that was dominated by the armed forces, when they were obliged to
 (C) it had a regime, armed forces dominating, but then were obliged to
 (D) armed forces dominated them until this regime were obliged by
 (E) a regime, dominated by the armed forces, was obliged by
13. This legend about Admiral Nelson, like other naval heroes, are based only partially on fact.
- (A) like other naval heroes, are
 (B) like those of other naval heroes, are
 (C) like other naval heroes, is
 (D) like legends about other naval heroes, are
 (E) like legends about other naval heroes, is
14. Bats and mosquitoes come out at twilight, and the bats would look for mosquitoes and the mosquitoes would look for people.
- (A) and the bats would look for mosquitoes and the mosquitoes would look
 (B) and the bats come to look for mosquitoes while the mosquitoes look
 (C) the bats look for mosquitoes and the mosquitoes are looking
 (D) the bats looking for mosquitoes while mosquitoes would look
 (E) the bats to look for mosquitoes and the mosquitoes to look

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.