

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

- Be sure to mark your answer sheet properly.



- You must use a No. 2 pencil.
- Carefully mark only one answer for each question.
- Make sure you fill the entire circle darkly and completely.
- 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.

## Using Your Test Book

- 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, 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.
- Multiple-choice and student-produced response questions are machine scored.
- 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.
- Off-topic essays, blank essays, and essays written in ink will receive a score of zero.

**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.

<b>9</b>	<b>TEST FORM</b>					
	(Copy from back of test book.)					

<b>8</b>	<b>FORM CODE</b>					
	(Copy and grid as on back of test book.)					
(A)	(A)	(A)	(A)	(0)	(0)	(0)
(B)	(B)	(B)	(B)	(1)	(1)	(1)
(C)	(C)	(C)	(C)	(2)	(2)	(2)
(D)	(D)	(D)	(D)	(3)	(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)			
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(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)			

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.

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



## 1

Words written outside the essay box or written in ink **WILL NOT APPEAR** in the copy sent to be scored, and your score will be affected.

**Begin your essay on this page. If you need more space, continue on the next page.**

[illegible]

**IMPORTANT: DO NOT START** on this page—if you do, your essay may appear blank and your score may be affected.

[illegible]



**You must use a No. 2 pencil and marks must be complete. Do not use a mechanical pencil. It is very important that you fill in the entire circle darkly and completely. If you change your response, erase as completely as possible. Incomplete marks or erasures may affect your score.**

## 2

- |    |     |     |     |     |     |
|----|-----|-----|-----|-----|-----|
| 31 | (A) | (B) | (C) | (D) | (E) |
| 32 | (A) | (B) | (C) | (D) | (E) |
| 33 | (A) | (B) | (C) | (D) | (E) |
| 34 | (A) | (B) | (C) | (D) | (E) |
| 35 | (A) | (B) | (C) | (D) | (E) |
| 36 | (A) | (B) | (C) | (D) | (E) |
| 37 | (A) | (B) | (C) | (D) | (E) |
| 38 | (A) | (B) | (C) | (D) | (E) |
| 39 | (A) | (B) | (C) | (D) | (E) |
| 40 | (A) | (B) | (C) | (D) | (E) |

## 3

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| 32 | (A) | (B) | (C) | (D) | (E) |
| 33 | (A) | (B) | (C) | (D) | (E) |
| 34 | (A) | (B) | (C) | (D) | (E) |
| 35 | (A) | (B) | (C) | (D) | (E) |
| 36 | (A) | (B) | (C) | (D) | (E) |
| 37 | (A) | (B) | (C) | (D) | (E) |
| 38 | (A) | (B) | (C) | (D) | (E) |
| 39 | (A) | (B) | (C) | (D) | (E) |
| 40 | (A) | (B) | (C) | (D) | (E) |

**Grid answers in the section below for SECTION 2 or SECTION 3 only if directed to do so in your test book.**

**ONLY ANSWERS THAT ARE GRIDDED WILL BE SCORED. YOU WILL NOT RECEIVE CREDIT FOR ANYTHING WRITTEN IN THE BOXES.**

Quality  
Assurance  
Mark

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	9	9	9

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9	9	9	9	



4

31	(A)	(B)	(C)	(D)	(E)
32	(A)	(B)	(C)	(D)	(E)
33	(A)	(B)	(C)	(D)	(E)
34	(A)	(B)	(C)	(D)	(E)
35	(A)	(B)	(C)	(D)	(E)
36	(A)	(B)	(C)	(D)	(E)
37	(A)	(B)	(C)	(D)	(E)
38	(A)	(B)	(C)	(D)	(E)
39	(A)	(B)	(C)	(D)	(E)
40	(A)	(B)	(C)	(D)	(E)

5

31	(A)	(B)	(C)	(D)	(E)
32	(A)	(B)	(C)	(D)	(E)
33	(A)	(B)	(C)	(D)	(E)
34	(A)	(B)	(C)	(D)	(E)
35	(A)	(B)	(C)	(D)	(E)
36	(A)	(B)	(C)	(D)	(E)
37	(A)	(B)	(C)	(D)	(E)
38	(A)	(B)	(C)	(D)	(E)
39	(A)	(B)	(C)	(D)	(E)
40	(A)	(B)	(C)	(D)	(E)

18				



6

1	(A)	(B)	(C)	(D)	(E)
2	(A)	(B)	(C)	(D)	(E)
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4	(A)	(B)	(C)	(D)	(E)
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6	(A)	(B)	(C)	(D)	(E)
7	(A)	(B)	(C)	(D)	(E)
8	(A)	(B)	(C)	(D)	(E)
9	(A)	(B)	(C)	(D)	(E)
10	(A)	(B)	(C)	(D)	(E)

11	(A)	(B)	(C)	(D)	(E)
12	(A)	(B)	(C)	(D)	(E)
13	(A)	(B)	(C)	(D)	(E)
14	(A)	(B)	(C)	(D)	(E)
15	(A)	(B)	(C)	(D)	(E)
16	(A)	(B)	(C)	(D)	(E)
17	(A)	(B)	(C)	(D)	(E)
18	(A)	(B)	(C)	(D)	(E)
19	(A)	(B)	(C)	(D)	(E)
20	(A)	(B)	(C)	(D)	(E)

21	(A)	(B)	(C)	(D)	(E)
22	(A)	(B)	(C)	(D)	(E)
23	(A)	(B)	(C)	(D)	(E)
24	(A)	(B)	(C)	(D)	(E)
25	(A)	(B)	(C)	(D)	(E)
26	(A)	(B)	(C)	(D)	(E)
27	(A)	(B)	(C)	(D)	(E)
28	(A)	(B)	(C)	(D)	(E)
29	(A)	(B)	(C)	(D)	(E)
30	(A)	(B)	(C)	(D)	(E)

31	(A)	(B)	(C)	(D)	(E)
32	(A)	(B)	(C)	(D)	(E)
33	(A)	(B)	(C)	(D)	(E)
34	(A)	(B)	(C)	(D)	(E)
35	(A)	(B)	(C)	(D)	(E)
36	(A)	(B)	(C)	(D)	(E)
37	(A)	(B)	(C)	(D)	(E)
38	(A)	(B)	(C)	(D)	(E)
39	(A)	(B)	(C)	(D)	(E)
40	(A)	(B)	(C)	(D)	(E)

7

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

11	(A)	(B)	(C)	(D)	(E)
12	(A)	(B)	(C)	(D)	(E)
13	(A)	(B)	(C)	(D)	(E)
14	(A)	(B)	(C)	(D)	(E)
15	(A)	(B)	(C)	(D)	(E)
16	(A)	(B)	(C)	(D)	(E)
17	(A)	(B)	(C)	(D)	(E)
18	(A)	(B)	(C)	(D)	(E)
19	(A)	(B)	(C)	(D)	(E)
20	(A)	(B)	(C)	(D)	(E)

21	(A)	(B)	(C)	(D)	(E)
22	(A)	(B)	(C)	(D)	(E)
23	(A)	(B)	(C)	(D)	(E)
24	(A)	(B)	(C)	(D)	(E)
25	(A)	(B)	(C)	(D)	(E)
26	(A)	(B)	(C)	(D)	(E)
27	(A)	(B)	(C)	(D)	(E)
28	(A)	(B)	(C)	(D)	(E)
29	(A)	(B)	(C)	(D)	(E)
30	(A)	(B)	(C)	(D)	(E)

31	(A)	(B)	(C)	(D)	(E)
32	(A)	(B)	(C)	(D)	(E)
33	(A)	(B)	(C)	(D)	(E)
34	(A)	(B)	(C)	(D)	(E)
35	(A)	(B)	(C)	(D)	(E)
36	(A)	(B)	(C)	(D)	(E)
37	(A)	(B)	(C)	(D)	(E)
38	(A)	(B)	(C)	(D)	(E)
39	(A)	(B)	(C)	(D)	(E)
40	(A)	(B)	(C)	(D)	(E)

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

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9	9	9	9

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(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)	
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13

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Quality Assurance Mark

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**17**

[illegible]

18

[illegible]

SERIAL #

COMPLETE MARK ●

EXAMPLES OF  
INCOMPLETE MARKS



You must use a No. 2 pencil and marks must be complete. Do not use a mechanical pencil. It is very important that you fill in the entire circle darkly and completely. If you change your response, erase as completely as possible. Incomplete marks or erasures may affect your score.

SECTION

8

- 1 (A) (B) (C) (D) (E)
- 2 (A) (B) (C) (D) (E)
- 3 (A) (B) (C) (D) (E)
- 4 (A) (B) (C) (D) (E)
- 5 (A) (B) (C) (D) (E)
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- 38 (A) (B) (C) (D) (E)
- 39 (A) (B) (C) (D) (E)
- 40 (A) (B) (C) (D) (E)

SECTION

9

- 1 (A) (B) (C) (D) (E)
- 2 (A) (B) (C) (D) (E)
- 3 (A) (B) (C) (D) (E)
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- 25 (A) (B) (C) (D) (E)
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- 30 (A) (B) (C) (D) (E)

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- 32 (A) (B) (C) (D) (E)
- 33 (A) (B) (C) (D) (E)
- 34 (A) (B) (C) (D) (E)
- 35 (A) (B) (C) (D) (E)
- 36 (A) (B) (C) (D) (E)
- 37 (A) (B) (C) (D) (E)
- 38 (A) (B) (C) (D) (E)
- 39 (A) (B) (C) (D) (E)
- 40 (A) (B) (C) (D) (E)

Quality

Assurance  
Mark

SECTION

10

- 1 (A) (B) (C) (D) (E)
- 2 (A) (B) (C) (D) (E)
- 3 (A) (B) (C) (D) (E)
- 4 (A) (B) (C) (D) (E)
- 5 (A) (B) (C) (D) (E)
- 6 (A) (B) (C) (D) (E)
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- 14 (A) (B) (C) (D) (E)
- 15 (A) (B) (C) (D) (E)
- 16 (A) (B) (C) (D) (E)
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- 22 (A) (B) (C) (D) (E)
- 23 (A) (B) (C) (D) (E)
- 24 (A) (B) (C) (D) (E)
- 25 (A) (B) (C) (D) (E)
- 26 (A) (B) (C) (D) (E)
- 27 (A) (B) (C) (D) (E)
- 28 (A) (B) (C) (D) (E)
- 29 (A) (B) (C) (D) (E)
- 30 (A) (B) (C) (D) (E)

- 31 (A) (B) (C) (D) (E)
- 32 (A) (B) (C) (D) (E)
- 33 (A) (B) (C) (D) (E)
- 34 (A) (B) (C) (D) (E)
- 35 (A) (B) (C) (D) (E)
- 36 (A) (B) (C) (D) (E)
- 37 (A) (B) (C) (D) (E)
- 38 (A) (B) (C) (D) (E)
- 39 (A) (B) (C) (D) (E)
- 40 (A) (B) (C) (D) (E)

Copy the statement below (do not print) and sign your name as you would an official document.

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Signature \_\_\_\_\_

Date \_\_\_\_\_

1 (A) (B) (C) (D) (E) (F) (G) (H) (I) (J)  
2 (A) (B) (C) (D) (E) (F) (G) (H) (I) (J)  
3 (A) (B) (C) (D) (E) (F) (G) (H) (I) (J)  
4 (A) (B) (C) (D) (E) (F) (G) (H) (I) (J)  
5 (A) (B) (C) (D) (E) (F) (G) (H) (I) (J)  
6 (A) (B) (C) (D) (E) (F) (G) (H) (I) (J)  
7 (A) (B) (C) (D) (E) (F) (G) (H) (I) (J)  
8 (A) (B) (C) (D) (E) (F) (G) (H) (I) (J)

[illegible]

**You may use this space to make notes for your essay. Remember, however, that you will receive credit ONLY for what is written on your answer sheet.**

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NOTES ONLY

Write essay on answer  
sheet!



# ESSAY

Unauthorized copying or reuse of  
any part of this page is illegal.



## 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.

### Important Reminders:

- **A pencil is required for the essay.** An essay written in ink will receive a score of zero.
- **Do not write your essay in your test book.** You will receive credit only for what you write on your answer sheet.
- **An off-topic essay will receive a score of zero.**

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

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

People's lives are the result of the choices they make—or fail to make. The path one takes in life is not arbitrary. Choices and their consequences determine the course of every person's life. All people, whatever their circumstances, make the choices on which their lives depend.

**Assignment:** Are people's lives the result of the choices they make? Plan and write an essay in which you develop your point of view on this issue. Support your position with reasoning and examples taken from your reading, studies, experience, or observations.

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

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



## SECTION 2

Time — 25 minutes

20 Questions

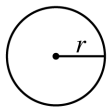
Turn to Section 2 (page 4) of your answer sheet to answer the questions in this section.

**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

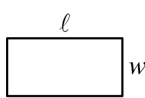
1. The use of a calculator is permitted.
2. All numbers used are real numbers.
3. Figures that accompany problems in this test are intended to provide information useful in solving the problems. They are drawn as accurately as possible EXCEPT when it is stated in a specific problem that the figure is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

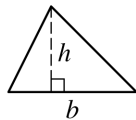


$$A = \pi r^2$$

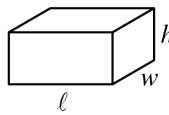
$$C = 2\pi r$$



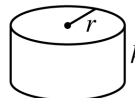
$$A = \ell w$$



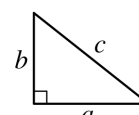
$$A = \frac{1}{2}bh$$



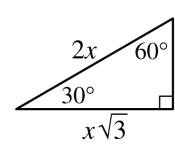
$$V = \ell wh$$



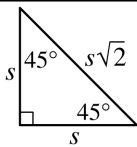
$$V = \pi r^2 h$$



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



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 total cost of 5 equally priced notebooks is \$12.50. If the cost per notebook is reduced by \$1, how much will 3 of these notebooks cost at the new rate?

- (A) \$4.50  
(B) \$5.00  
(C) \$6.50  
(D) \$7.50  
(E) \$9.50

2. If  $x^2 - 64 = 0$ , which of the following could be a value of  $x$ ?

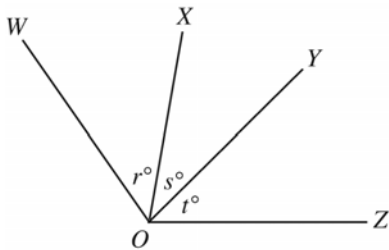
- (A)  $-8$   
(B)  $-4$   
(C)  $0$   
(D)  $16$   
(E)  $32$

GO ON TO THE NEXT PAGE 



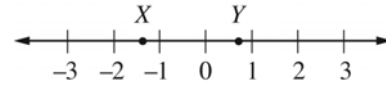
3. The digits of the positive three-digit integer  $n$  are 7, 8, and 9. How many possible values are there for  $n$ ?

(A) Three  
(B) Four  
(C) Six  
(D) Eight  
(E) Nine



4. In the figure above,  $\angle WOY$  and  $\angle XOZ$  each have measure  $80^\circ$ . If  $r = 45$ , what is the value of  $t$ ?

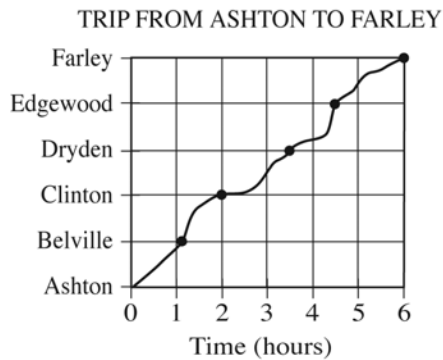
(A) 125  
(B) 80  
(C) 55  
(D) 50  
(E) 45



5. In the figure above, if the coordinates of points  $X$  and  $Y$  are added together, the result will be the coordinate of a point between which two consecutive integers?
- (A)  $-3$  and  $-2$   
(B)  $-2$  and  $-1$   
(C)  $-1$  and  $0$   
(D)  $0$  and  $1$   
(E)  $2$  and  $3$

6. In a sequence of numbers, the first number is 4 and each number after the first is 1 more than 5 times the preceding number. What is the third number in the sequence?

(A) 16  
(B) 21  
(C) 94  
(D) 96  
(E) 106



7. It took Kia 6 hours to drive from Ashton to Farley, passing through Belville, Clinton, Dryden, and Edgewood on the way. The graph above shows where she was along the route during the 6 hours of the trip. According to the graph, approximately how long, in hours, did it take Kia to drive from Dryden to Edgewood?

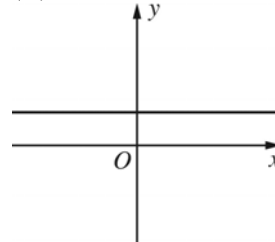
- (A) 1  
(B)  $2\frac{1}{2}$   
(C) 3  
(D)  $3\frac{1}{2}$   
(E)  $4\frac{1}{2}$

8. If the average of 4 and  $j$  is 6 and the average of 10 and  $k$  is 10, what is the average of  $j$  and  $k$ ?

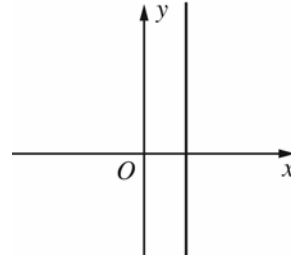
- (A) 5  
(B) 6  
(C) 8  
(D) 9  
(E) 10

9. Which of the following could be the graph in the  $xy$ -plane of the function  $f(x) = 2x + 3$ ?

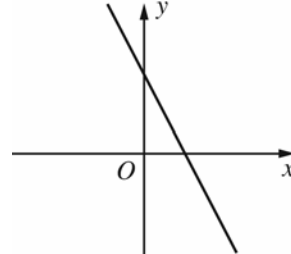
(A)



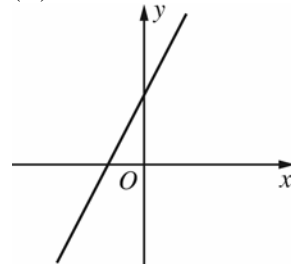
(B)



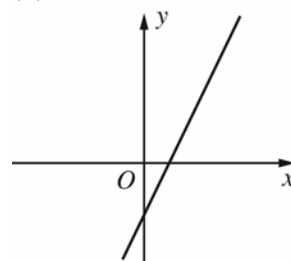
(C)



(D)



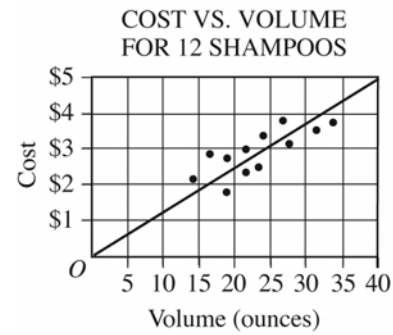
(E)





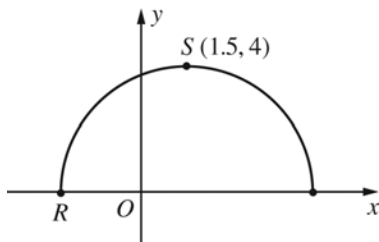
10. If  $n$  is a positive odd integer, then  $(n + 1)(n + 2)$  could equal which of the following?

(A) 10  
(B) 15  
(C) 20  
(D) 25  
(E) 30



12. For 12 bottles of shampoo of various brands, the cost and volume of each are displayed in the scatterplot above, and the line of best fit for the data is shown. Of the following, which is closest to the average (arithmetic mean) cost per ounce for the 12 bottles?

(A) \$0.06  
(B) \$0.09  
(C) \$0.12  
(D) \$0.15  
(E) \$0.18



11. Point  $S$  is the point with the greatest  $y$ -coordinate on the semicircle shown above. What is the  $x$ -coordinate of point  $R$ ?

(A)  $-5.5$   
(B)  $-4$   
(C)  $-3.5$   
(D)  $-3$   
(E)  $-2.5$



13. The graph of a quadratic function and the graph of a linear function in the  $xy$ -plane can intersect in at most how many points?

(A) One  
(B) Two  
(C) Three  
(D) Four  
(E) More than four

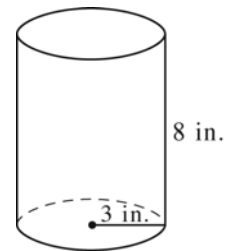
15. If  $a$  and  $b$  are positive integers and  $9(3^a) = 3^b$ , what is  $a$  in terms of  $b$ ?

(A)  $b - 2$   
(B)  $b - 1$   
(C)  $b$   
(D)  $b + 1$   
(E)  $b + 2$

14. If the length of  $\overline{LM}$  is 7 and the length of  $\overline{MN}$  is 8, which of the following could be the length of  $\overline{LN}$ ?

(A) 23  
(B) 22  
(C) 17  
(D) 16  
(E) 14

16. The tin can in the figure above is a cylinder that is 8 inches high and has a base of radius 3 inches. Of 5 pencils with lengths 6 inches,  $8\frac{1}{2}$  inches, 9 inches,  $10\frac{1}{2}$  inches, and 12 inches, how many CANNOT fit entirely inside the can?

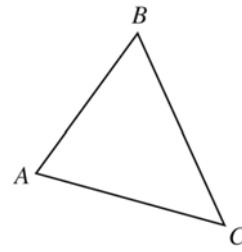


(A) One  
(B) Two  
(C) Three  
(D) Four  
(E) Five



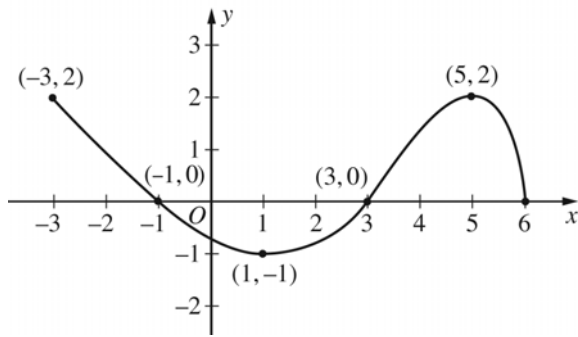
17. When the number  $k$  is multiplied by 5, the result is the same as when 5 is added to  $k$ . What is the value of  $4k$ ?

(A)  $\frac{4}{5}$   
(B) 1  
(C)  $\frac{5}{4}$   
(D) 4  
(E) 5



18. A circle (not drawn) passes through point  $A$  in the figure above. What could be the total number of points of intersection of this circle and  $\triangle ABC$ ?

I. 1  
II. 3  
III. 4  
(A) I only  
(B) II only  
(C) I and II only  
(D) II and III only  
(E) I, II, and III



19. The function  $f$  graphed above is defined for  $-3 \leq x \leq 6$ . For which of the following values of  $x$  is  $f(x) < |f(x)|$ ?

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

20. If  $x$  and  $y$  are numbers such that  $(x + 9)(y - 9) = 0$ , what is the smallest possible value of  $x^2 + y^2$ ?

(A)  $0$   
 (B)  $9$   
 (C)  $18$   
 (D)  $81$   
 (E)  $162$

**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.

**NO TEST MATERIAL ON THIS PAGE**





4. Teachers who consider cartoons and comic books harmful to students' literacy skills often use class time to ----- these media.
- (A) deride (B) rationalize  
(C) vindicate (D) foster  
(E) annotate
5. Because he had decided not to ----- himself through the sales of his new product, the inventor anonymously donated all profits to charity.
- (A) compromise (B) invigorate  
(C) impoverish (D) aggrandize  
(E) debilitate
6. Once he had ----- sufficient ----- information, Randall felt confident in publishing his daring article incriminating the local politician.
- (A) written . . substantial  
(B) believed . . sensational  
(C) obtained . . corroborating  
(D) reported . . hackneyed  
(E) discovered . . contradicting
7. Since her personal pleas had failed to make her noisy neighbors change their ways, the homeowner felt that her only ----- was to notify the police.
- (A) backlash (B) recourse  
(C) bromide (D) reckoning  
(E) forbearance
8. Despite pressure from reporters to discuss the scandal in which Senator Scottsdale was currently ----- , the press secretary would not ----- the details of the senator's upcoming public address.
- (A) imbued . . rescind  
(B) connected . . consort  
(C) entangled . . repeal  
(D) embroiled . . divulge  
(E) compliant . . quash



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

Questions 9-12 are based on the following passages.

*Modern historians use the terms “feudalism” and “manorialism” to refer to the ways that medieval European societies were organized.*

#### Passage 1

Line “Feudalism” is one of those words that  
have taken on so many extended and  
figurative meanings that the original  
meaning has been obscured. Today any  
5 oppressive government, greedy  
landholder, or brutal exploiter of labor is  
called feudal—always with disapproval.  
This is unfair to feudalism. The word is  
also often confused with the “manorial  
10 system,” which tied peasants to the land  
they worked. Feudalism is a total  
organization of society. It is a scheme of  
political organization, based in law and  
overlapping with social and economic  
15 organization.

#### Passage 2

Older historians used the term “feudalism”  
for the whole medieval social order, which  
was a peasant society dominated by a  
military, land-owning aristocracy. Modern  
20 usage generally restricts the word to the  
network of relations between tenants and  
lords *within* the aristocracy. The system  
governing the peasant’s relation to the  
lord, which was the economic foundation  
25 of medieval society, is usually designated  
the “manorial system.” The relationships  
embodied in the feudal and manorial  
systems were simple enough in theory:  
In the manorial system, a peasant labored  
30 for a lord in return for land of his own; in  
the feudal system, a lord held lands from  
the king or the overlord in return for  
supplying soldiers on demand.

9. Which of the following is closest to what the author of Passage 1 means by the phrase “This is unfair to feudalism” (line 8)?
  - (A) “Feudalism” should not be used figuratively.
  - (B) “Feudalism” should not be used to refer to a system of government.
  - (C) Those who lived in feudal societies would disapprove of the way the term is currently used.
  - (D) “Feudalism” should not necessarily have only negative connotations.
  - (E) “Feudalism” has been misused to the extent that the term no longer has a meaning.
10. The word “extended” in line 2 most nearly means
  - (A) prolonged
  - (B) expanded
  - (C) removed
  - (D) allocated
  - (E) intensive
11. According to the author of Passage 2, the term “manorial” refers to
  - (A) the whole medieval social order
  - (B) the relationships among the members of the medieval aristocracy
  - (C) the economic relationship between medieval peasants and lords
  - (D) the exchange of military protection for land ownership
  - (E) the system of laws governing overlords
12. Compared with the tone of Passage 1, the tone of Passage 2 is more
  - (A) objective
  - (B) disdainful
  - (C) lively
  - (D) unsympathetic
  - (E) argumentative



Questions 13-24 are based on the following passage.

*In the following excerpt from a novel, Samuel Tyne, a Canadian of Ghanaian descent, returns to work at the Canadian Ministry of Economics after attending his uncle's funeral.*

Line  
5 His overt melancholy aggravated his boss, for it made Samuel hard to approach. Just a glance into Samuel's cubicle gave his co-workers much to gloat about. It seemed a wonder he was such an exacting employee, with the swift but pitiful stride that brought him, disillu-  
10 sioned, to the threshold of every meeting. Yet he was so indispensable in that ministry that his co-workers regretted every slur they flung at him, lest the slights drive him to suicide. For not only would the department collapse without his doting, steady logic to balance it, but it  
15 seemed at times that the entire Canadian economy depended on the reluctant, soft-wristed scribbling he did in his green ledger.

20 There Samuel sat each day, painfully tallying his data, his pencil poised like a scalpel in his hand, frowning at the gruesome but inevitable task ahead of him. Dwarfed by a monstrous blue suit, Samuel would finger the mournful  
25 pre-war bowler that never left his head. And it was such an earnest sight, such an intimate window into a man whose nature seemed to be all windows—people wondered if he actually had a *public* self—  
30 that he might have been the only man in the world to claim vulnerability as his greatest asset.

35 The day after the funeral, Samuel returned to work to find a note from his bosses on his desk: *Come See Us*.

40 What could they possibly reprimand him for? He was a fast and diligent worker, with enough gumption to use a little imaginative reasoning when some economic nuisance called for it. He was punctual and tidy, not overly familiar with his co-workers; quite simply, the best employee they had. Rather than indignation, though, Samuel only felt fear.  
45 To buy himself time, he crumpled a few clean papers from his ledger, and walked

the narrow aisles between cubicles to throw them in the hallway garbage bin.

He returned to find both bosses, Dombey and Son\*, as he'd nicknamed them, at his desk. Dombey's German sense of humor failed to translate, at least to Samuel, who always overdid his laugh to mask confusion. Son, whose current  
55 prestige was pure nepotism, looked at Samuel with the coldness that cloaked all of his dealings, as if he knew he was inept and needed to compensate.

60 "Tyne," Dombey said, "we need to talk about the Olds account."

Samuel pinched the brim of his hat with his thumbs. "Ah, yes. Sorry, yes. I think, sir, I handed that in before I took day leave for my uncle's funeral."

65 "It contains a dreadful error," said Son, blinking violently behind his glasses. He jerked the report at Samuel.

70 There it was, plain as day, on page six. A miscalculation Samuel must have made while thinking about Jacob's death and the house. He stood there, hat in hand, aghast.

"We realize," continued Son, "that the job sometimes gets stressful. That, per se, there are times when one cannot  
75 always be as on-the-ball as is required. But this defies all. Not only is it not up to standard, it's downright misleading."

80 That was the way Son spoke, as though he hadn't mastered the bureaucratic language, wielding phrases such as "per se" and "not up to standard" like the residue of some management handbook. Even Dombey seemed  
85 perplexed by this at times.

The muscle in Samuel's cheek trembled. He nodded.

90 "We understand you've just suffered a big loss, Samuel," said Dombey, "but as you know this is a federal workplace. What would happen, say, if you made this kind of error daily? Now, we're certainly not saying that you do. But what would happen? I'll tell you  
95 what would happen. You'd have ladies collapsing in ten-hour lines just to get a loaf of bread to feed their families. You'd have children skipping school because there aren't enough clothes to go around.



100 Babies dying without milk. Old folks  
crumbling in their rockers. It'd be  
pandemonium with a capital P—  
depression. We are the economy. We  
answer to the prime minister. There is no  
105 room for error here." Dombey scratched  
his head and looked wistful. "Oh, don't  
look so glum."

Again, Samuel nodded.

Son, fearing his role in the  
110 reprimand unnecessary, added, "We are,  
of course, deeply sorry for your loss, but  
you must remember our country is in your  
hands."

Dombey frowned at Son, and the  
115 two men walked off. When they left,  
Samuel heard through the divider the  
rude laughter of Sally Mather. His face  
burning, he sat at his desk, and picking up  
his green ledger, tried to make up for the  
120 ten minutes lost time.

\* *Dombey and Son* is a novel by the English writer  
Charles Dickens.

13. In line 20, the word "painfully" is closest in meaning to

- (A) laboriously
- (B) critically
- (C) sensitively
- (D) harmfully
- (E) acutely

14. In line 22, the word "gruesome" is closest in meaning to

- (A) shocking
- (B) repugnant
- (C) frightening
- (D) crude
- (E) sensational

15. The second paragraph implies that Tyne's clothes make him appear which of the following?

- (A) Casual
- (B) Pathetic
- (C) Stylish
- (D) Proud
- (E) Inappropriate

16. Tyne's attitude at work could best be described as

- (A) sinister and calculating
- (B) happy and ambitious
- (C) insubordinate and stubborn
- (D) cheerful and obedient
- (E) professional and morose

17. The phrase "whose nature seemed to be all windows" in lines 27-28 suggests that

- (A) Tyne's colleagues all had different opinions of him
- (B) Tyne behaved in many inconsistent ways
- (C) Tyne's true feelings were easy to observe
- (D) Tyne did not appear to be a solid person
- (E) Tyne always talked about himself to his colleagues

18. In line 41, the word "familiar" is closest in meaning to

- (A) common
- (B) expected
- (C) forward
- (D) natural
- (E) recognizable

19. The description of Tyne's job performance in lines 37-43 primarily serves to

- (A) illustrate that Tyne enjoyed doing his job
- (B) imply that Tyne deserves a promotion
- (C) suggest that Tyne's work habits are generally beyond reproach
- (D) indicate that Tyne's bosses will probably not discipline him
- (E) demonstrate that Tyne's bosses have always liked him

20. The gesture in lines 45-48 ("To buy...bin") is meant primarily to indicate Tyne's

- (A) desire to look busy
- (B) unwillingness to meet with his bosses
- (C) avoidance of work
- (D) attempt to escape punishment
- (E) dissatisfaction with his surroundings



21. The narrator most likely refers to Tyne's second boss only as "Son" throughout the passage in order to
- (A) imply that his authority is undeserved
  - (B) indicate his official title at work
  - (C) reinforce his position of power
  - (D) suggest a friendship between him and Tyne
  - (E) portray him as an approachable manager
22. The narrator suggests that Son's comment to Tyne in lines 110-113 demonstrates
- (A) genuine concern for Tyne's loss
  - (B) a misunderstanding of Tyne's situation
  - (C) a disagreement with Dombey about the error
  - (D) a desire to be seen as important
  - (E) an effort to help Tyne improve his performance
23. Tyne's response to his bosses' reprimand could best be characterized as
- (A) defensive
  - (B) passionate
  - (C) rude
  - (D) submissive
  - (E) deceitful
24. The author mentions the "rude laughter of Sally Mather" in line 117 primarily in order to
- (A) indicate that most of Tyne's colleagues dislike him
  - (B) imply that Sally Mather has reported Tyne's error to his bosses
  - (C) underscore the humiliation Tyne is experiencing
  - (D) show that Tyne's bosses wanted his colleagues to know about his error
  - (E) suggest that Tyne's bosses are making fun of him

**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 5****Time — 25 minutes****35 Questions****Turn to Section 5 (page 5) of your answer sheet to answer the questions in this section.****Directions:** For each question in this section, select the best answer from among the choices given and fill in the corresponding circle on the answer sheet.

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

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

**EXAMPLE:**

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

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

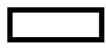
☐ A ☒ B ☐ C ☐ D ☐ E

1. Unlike with many animals, humans do not swim by instinct.
- (A) with many animals
  - (B) what many animals do
  - (C) many animals
  - (D) many animals who do it
  - (E) many animals do

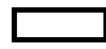
2. First run in 1867 and still taking place every summer, the Belmont Stakes, a horse race for thoroughbred three-year-olds, was one of the oldest races in the United States.
- (A) was
  - (B) is
  - (C) were
  - (D) are
  - (E) has been
3. Folklore scholars think of fables probably originating among the Semitic peoples of the Middle East, moving first to India and then west to Greece.
- (A) of fables probably originating
  - (B) of fables that probably originated
  - (C) that the fable's origins were probably
  - (D) that the origin of fables probably was
  - (E) that fables probably originated
4. Althea Gibson, the first African American tennis player that they recognized as a world champion, began playing amateur tennis in the 1940's.
- (A) that they recognized as
  - (B) that was recognized to be
  - (C) recognized because she was
  - (D) to be recognized as
  - (E) recognizing her as



5



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5



5

5. Societies acting through their governments make the rules to state which acts are illegal, but although war is the most violent of human activities, it has not been declared illegal by any of the world's governments or their agencies.
- (A) to state  
(B) stating  
(C) when they state  
(D) that are stating  
(E) where they state
6. The 2003 Nobel Peace Prize was awarded to Shirin Ebadi, an Iranian lawyer, writer, and teacher, she gained prominence as an advocate for democracy and human rights.
- (A) teacher, she gained  
(B) teacher, she had gained  
(C) teacher, gaining  
(D) teacher who gained  
(E) teacher having gained
7. Because its early history is not fully known, origami, the art of folding objects out of paper without cutting, pasting, or decorating, seems to have developed from the older art of folding cloth.
- (A) Because  
(B) In that  
(C) Since  
(D) Although  
(E) As
8. One of the most popular singers of his time, more than twenty languages were mastered by Paul Robeson, allowing him to perform classical repertory, spirituals, and folk songs from around the world.
- (A) more than twenty languages were mastered by Paul Robeson, allowing him to perform  
(B) Paul Robeson's mastery of more than twenty languages allowed him to perform  
(C) mastering more than twenty languages allowed Paul Robeson to perform  
(D) his mastery of more than twenty languages allowed Paul Robeson to be performing  
(E) Paul Robeson mastered more than twenty languages, allowing him to perform
9. Babe Ruth is regarded by many having been the greatest baseball player in history, and he remains arguably the most celebrated figure in North American sports.
- (A) having been  
(B) that he was  
(C) for being  
(D) to be  
(E) as
10. Digital technology, as every marketer knows, is synonymous to speed, precision, and the future.
- (A) to  
(B) of  
(C) with  
(D) for  
(E) through
11. After carefully studying both of the articles, Dr. Rodriguez and Nurse Alba found that the only difference between them were their titles.
- (A) them were their titles  
(B) them were the titles  
(C) the articles were the titles  
(D) the articles was that of the titles  
(E) the articles was their titles



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

EXAMPLE:

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

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

12. At the meeting of the planning board, the  
A  
councilwoman assured her constituents that she was  
B C  
active seeking a long-term solution to the city's  
D  
parking problem. No error  
E

13. Used in sculpture, carving is the process of reducing  
A  
substances such as stone, wood, or ivory to a  
B  
desired shape by cutting or to chip away unnecessary  
C D  
parts. No error  
E

14. New York City is an important center of American  
A  
Buddhism, in part because its residents included  
B C  
immigrants from most of the countries that have  
D  
strong Buddhist traditions. No error  
E

15. In addition to being a talented pianist and composer,  
A B  
Béla Bartók was a respected musicologist who wrote  
C D  
several books on Hungarian, Slovakian, and Romanian  
folk music. No error  
E

16. Whereas the caterpillars of most butterflies are  
A  
harmless, moth caterpillars caused an enormous  
B  
amount of damage to plants, forest and shade trees,  
C  
clothing, and household goods. No error  
D E

17. Homing pigeons can navigate over long distances,  
A  
employing their sense of smell to ascertain their initial  
B  
location and using the position of the Sun  
C  
determining the direction in which they must fly.  
D  
No error  
E

18. Salt is valued not only because of its properties as a  
A  
condiment and preservative, but also because  
B  
they are essential to the health of humans and  
C D  
animals. No error  
E



19. After two terms in the Texas State Senate, Barbara  
A

Jordan elected to the United States House of

B

Representatives, where she served from 1973 to

C

D

1979. No error

E

20. A sweetener, normally either sugar or syrup, are used  
A B

in almost all bread for taste or as an aid to yeast

C

D

growth. No error

E

21. Willie Dixon's upbeat blues compositions helped  
A

usher in the Chicago blues sound during the 1950's and

have become standard numbers for the many young

B

rock groups trying to achieve popularity during the

C

D

1960's. No error

E

22. When the Spanish conquistadors reached Peru in  
A

1532, they encountered the vast empire of the Incas,

B

it extended along the Pacific coast of South America

C

from modern Ecuador to central Chile and

inland across the Andes. No error

D

E

23. Unlike her best friend Margie, making the varsity  
A B

soccer team as a freshman, Jill did not make the team

C

D

until her junior year. No error

E

24. Although the precise date and place of the origin of

baseball are hotly debated, it is beyond dispute that

A

B

the New York City boroughs of Manhattan and

Brooklyn play an important role in its early

C

D

development. No error

E

25. By 2003, more than 684,000 students in the United  
A

States had enrolled in charter schools, publicly funded

schools that pledged better academic results and were

B

unencumbered by many of the regulations governing

C

D

ordinary public schools. No error

E

26. The common cold, like chickenpox, measles, and  
A

many other viral diseases, can be spread both before

B

C

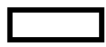
and after their symptoms emerge. No error

D

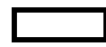
E



5



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5



5

27. Although he had never played organized sports,

A

whenever Justin, who was uncommonly tall, attends

B

C

a basketball game, fans would ask him for an

D

autograph. No error

E

29. Venezuela devotes a higher percentage of its budget

A

B

to education than do other large Latin American

C

countries such as Mexico and Brazil. No error

D

E

28. From its modest beginnings as a series of brief

A

vignettes and its establishment as the longest-running

B

prime-time comedy series on television, *The Simpsons*

has transformed the way that both audiences and

C

television programmers view the animated sitcom.

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 are based on the following passage.**

(1) Aristotle was a great philosopher and scientist. (2) Aristotle lived in Greece over 2300 years ago. (3) Aristotle was extraordinarily curious about the world around him. (4) He was also a master at figuring out how things worked. (5) Aristotle passed it on to his pupil Theophrastus. (6) Theophrastus was famous among his contemporaries as the co-founder of the Lyceum, a school in Greece, he is best known today as "the father of botany." (7) Botany is the branch of science dealing with plants. (8) Two famous books he wrote were *Natural History of Plants* and *Reasons for Vegetable Growth*. (9) His books were translated from Greek into Latin in 1483—1800 years after he wrote them—they influenced thousands of readers. (10) Theophrastus made accurate observations about all aspects of plant life, including plant structure, plant diseases, seed use, and medicinal properties. (11) He even described the complex process of plant reproduction correctly, hundreds of years before it was formally proven. (12) In 1694 Rudolph Jakob Camerarius used experiments to show how plants reproduced. (13) According to some accounts, Theophrastus did his research in a garden he maintained at his school which was called the Lyceum. (14) But Theophrastus also wrote about plants that grew only in other countries, which he heard about from returning soldiers. (15) By comparing these plants to plants he grew in his garden, Theophrastus established principles that are still true today.

30. Which of the following is the best version of the underlined portion of sentence 1 and sentence 2 (reproduced below)?

*Aristotle was a great philosopher and scientist.  
Aristotle lived in Greece over 2300 years ago.*

- (A) philosopher and a scientist, living
  - (B) philosopher and scientist who lived
  - (C) philosopher, and, as a scientist, lived
  - (D) philosopher and scientist; Aristotle lived
  - (E) philosopher, scientist, and lived
31. What would best replace "it" in sentence 5?
- (A) that
  - (B) them
  - (C) these traits
  - (D) the world
  - (E) his things
32. What word should be inserted between "Greece," and "he" in sentence 6 (reproduced below)?
- Theophrastus was famous among his contemporaries as the co-founder of the Lyceum, a school in Greece, he is best known today as "the father of botany."*
- (A) and
  - (B) but
  - (C) for
  - (D) thus
  - (E) moreover
33. Which sentence should be inserted between sentence 8 and sentence 9?
- (A) Theophrastus's ideas had a lasting impact.
  - (B) Theophrastus's books were instantly successful.
  - (C) The first book is still studied today in botany classes.
  - (D) They challenged the conclusions of Aristotle.
  - (E) Theophrastus also taught botany to hundreds of students.



34. Which revision appropriately shortens sentence 13 (reproduced below)?

*According to some accounts, Theophrastus did his research in a garden he maintained at his school which was called the Lyceum.*

- (A) Delete "his school which was called".
- (B) Delete "According to some accounts,".
- (C) Delete "in a garden he maintained".
- (D) Replace "According to some accounts" with "Therefore".
- (E) Replace "Theophrastus" with "he".

35. The third paragraph would be improved by the deletion of which sentence?

- (A) Sentence 10
- (B) Sentence 11
- (C) Sentence 12
- (D) Sentence 14
- (E) Sentence 15

**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.

**NO TEST MATERIAL ON THIS PAGE**



## SECTION 6

Time — 25 minutes

18 Questions

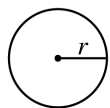
Turn to Section 6 (page 6) of your answer sheet to answer the questions in this section.

**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

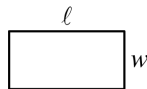
- The use of a calculator is permitted.
- All numbers used are real numbers.
- Figures that accompany problems in this test are intended to provide information useful in solving the problems. They are drawn as accurately as possible EXCEPT when it is stated in a specific problem that the figure is not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

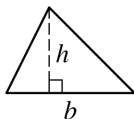


$$A = \pi r^2$$

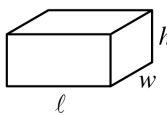
$$C = 2\pi r$$



$$A = \ell w$$



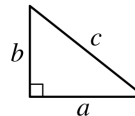
$$A = \frac{1}{2}bh$$



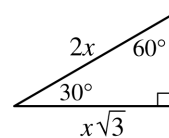
$$V = \ell wh$$



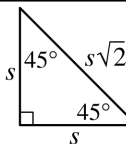
$$V = \pi r^2 h$$



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



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.

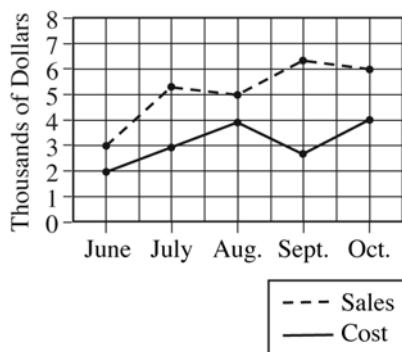
1. A new roll of film has  $p$  pictures. After  $t$  pictures are taken, there are  $k$  pictures left. What is  $t$  in terms of  $p$  and  $k$ ?

- (A)  $p + k$   
 (B)  $p - k$   
 (C)  $k - p$   
 (D)  $pk$   
 (E)  $\frac{p}{k}$

2. The prime number  $p$  is a factor of 30 and is also a factor of 42. How many possible values are there for  $p$ ?

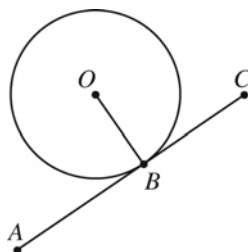
- (A) One  
 (B) Two  
 (C) Three  
 (D) Four  
 (E) Five

GO ON TO THE NEXT PAGE



3. According to the graph above, for which month was sales minus cost greatest?

(A) June  
(B) July  
(C) August  
(D) September  
(E) October



4. In the figure above,  $O$  is the center of the circle and segment  $\overline{AC}$  is tangent to the circle at point  $B$ . If the measure of  $\angle ABO$  is  $x^\circ$ , how many possible values are there for  $x$ ?

(A) One  
(B) Two  
(C) Three  
(D) Four  
(E) More than four

5. The bus fare from city  $A$  to city  $B$  is \$5 more for adults than for children. If a group of 5 adults and 6 children pay a total of \$124 to travel by bus from city  $A$  to city  $B$ , what is the cost of the ticket for one adult?

(A) \$11  
(B) \$12  
(C) \$14  
(D) \$16  
(E) \$17

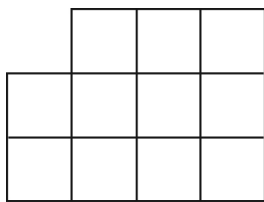


Figure A

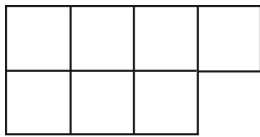
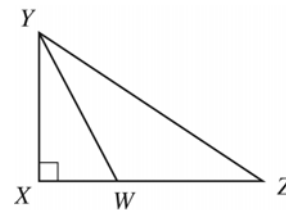


Figure B

6. The smallest squares in Figure A and Figure B are all equal in size. If the area of Figure A is 33 square centimeters, what is the area, in square centimeters, of Figure B?

(A) 15  
(B) 18  
(C) 21  
(D) 24  
(E) 28



Note: Figure not drawn to scale.

8. In triangle XYZ above,  $XW = 2$ ,  $WZ = 8$ , and  $XY = 6$ . What is the area of triangle WYZ?

(A) 6  
(B) 12  
(C) 18  
(D) 24  
(E) 30

1. Add  $4y$  to  $x$ .
2. Multiply the sum by 3.
3. Subtract  $y - 3x$  from the product.

7. If the steps above are followed in order, which of the following is a simplified expression for the result?

(A)  $11y$   
(B)  $13y$   
(C)  $2x + 11y$   
(D)  $4x + 13y$   
(E)  $6x + 11y$



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

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

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

Write answer in boxes.

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

Grid in result.

Fraction line

Answer: 2.5

2	.	5	
•	•	•	•
0	0	0	0
1	1	1	1
2	•	2	2
3	3	3	3
4	4	4	4
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	
•	•	•	•
0	•	0	0
1	1	1	•
2	•	2	2
3	3	3	3
4	4	4	4

2	0	1	
•	•	•	•
0	•	0	0
1	1	•	1
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	/	1	2
•	•	•	•

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

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

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

2	/	3	
•	•	•	•
0	0	0	0
1	1	1	1
2	•	2	2
3	3	3	•
4	4	4	4
5	5	5	5
6	6	6	6

.	6	6	6
•	•	•	•
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	•	•	•

.	6	6	7
•	•	•	•
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	•	•	•

9. At a science conference, the length of the question period is directly proportional to the length of the session. If there is a 15-minute question period in a 60-minute session, how many minutes long is the question period in an 80-minute session at this conference?

10. What is the volume, in cubic feet, of a cube with edges of length 10 feet?

GO ON TO THE NEXT PAGE



11. If  $(x + 5)y = x^2 - x + 13$ , what is the value of  $y$  when  $x = 2$ ?

---


$$c(n) = 35 + 12n$$

12. To hold a birthday party for  $n$  people, the amount a party planner charges, in dollars, is given by the function  $c(n)$  above. How much, in dollars, does the planner charge to hold a birthday party for 12 people? (Disregard the \$ sign when gridding your answer.)

13. For all  $x$ , the function  $f$  is defined by  $f(x) = 3x$ , and the function  $g$  is defined by  $g(x) = f(x) + 2$ . What is the value of  $g(50)$ ?

	Juniors	Seniors
Physics	15	25
Statistics	15	20

TABLE 1

	Period 1	Period 2
Physics	18	$k$
Statistics	$n$	17

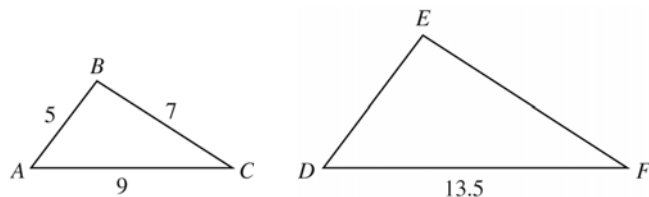
TABLE 2

14. Table 1 above shows the number of juniors and seniors taking Physics and Statistics at Midland High School. The partially completed Table 2 above gives the enrollment for these classes in periods 1 and 2, which are the only periods Physics and Statistics are taught. If only juniors and seniors take these classes, what is the total number of students who take Physics or Statistics in period 2?



15. The  $n$ th term of a sequence is given by the formula  $n^2 + 2n$ . How much larger is the 10th term of the sequence than the 9th term?

17. When the positive integer  $n$  is divided by 6, the remainder is 2. What is the remainder when  $24n$  is divided by 36?



16. In the figure above,  $\triangle ABC$  is similar to  $\triangle DEF$ . What is the length of side  $\overline{EF}$ ?

18. In the  $xy$ -coordinate plane, the distance between points  $P(10, y)$  and  $Q(70, 14)$  is 61. What is one possible value of  $y$ ?

**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 critics found the play -----, in that its social message was unfortunately lost in the awkward twists and turns of the plot.  
(A) convoluted (B) susceptible  
(C) suspect (D) condemnatory  
(E) preachy
2. Muriel was so fond of her dog that their brief separation left her not just saddened, but in a state of -----.  
(A) vagary (B) abhorrence  
(C) bereavement (D) degeneration  
(E) elation
3. Deliberately designed to be devoid of elaborate carving or other -----, Biedermeier furniture was known for its -----.  
(A) customization . . uniqueness  
(B) spareness . . starkness  
(C) embellishment . . garnishes  
(D) ornamentation . . simplicity  
(E) flamboyance . . flourishes
4. Because she had mistakenly assumed that the disputes between the parties could be successfully -----, the attorney had not prepared herself for the ----- of a long, drawn-out public trial.  
(A) mediated . . eventuality  
(B) eased . . probability  
(C) exacerbated . . contingency  
(D) manipulated . . particularity  
(E) foreseen . . inevitability
5. Anthropology was much more than ----- for the novelist Zora Neale Hurston: she studied at Barnard College with Franz Boas, who is often called the "Father of American Anthropology."  
(A) an obsession (B) a career  
(C) an avocation (D) an encumbrance  
(E) a commitment



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 6-7 are based on the following passage.**

By the standards of the day,  
feminism was very powerful in New York  
City at the end of the Second World War  
in 1945—the phrase “male chauvinist” had  
Line 5 already been used there. New York  
women were famously independent, and  
famously “smart.” Taverns still  
sometimes declined to serve them, it was  
true, but even that resilient prejudice had  
Line 10 been weakened by the pressures of  
Prohibition\*, and it was many long years  
since the actress Lily Langtry, refused ale  
and a mutton chop at Keen’s chophouse,  
had taken the management to court, and  
Line 15 won. Innumerable women’s organizations  
sustained this liberty, bolstered the sense  
of feminine power, provided cultural uplift,  
offered professional support, or fulfilled  
charitable leanings.

\*The period from 1920 to 1933 during which  
alcoholic beverages were prohibited by law in the  
United States.

6. The author of the passage implies which of the following about the term “male chauvinist”?
- (A) That it was first used in New York
  - (B) That it was first used in 1945
  - (C) That its use was common only among college-educated women
  - (D) That its use was associated with the Second World War
  - (E) That its use became common outside New York after 1945
7. It can be inferred from the passage that Prohibition had the effect of
- (A) curbing rights previously afforded to women
  - (B) creating new businesses popular among women
  - (C) making tavern service to women more common
  - (D) limiting the food offerings in taverns
  - (E) inspiring laws that prohibited discrimination

**Questions 8-9 are based on the following passage.**

It is commonly claimed that Einstein  
“overthrew” Newtonian physics, but this  
claim is misleading. Newton’s law still  
Line 5 describes motions in the Solar System  
with good precision and is adequate for  
programming the trajectories of space  
probes to the Moon and planets.  
Einstein’s theory, however, copes (unlike  
Newton’s) with objects whose speeds are  
Line 10 close to that of light, with the ultra-strong  
gravity that could induce such enormous  
speeds, and with the effect of gravity on  
light itself. More important, Einstein  
deepened our understanding of gravity.  
Line 15 To Newton, it was a mystery why all  
particles fell at the same rate and followed  
identical orbits, but Einstein showed that  
these phenomena were a natural  
consequence of all bodies taking the same  
Line 20 “straightest” path in a space-time curved  
by mass and energy.

8. The author places the word “straightest” (line 20) in quotation marks most probably in order to
- (A) make the concept easier for readers to remember
  - (B) indicate that the word is not being used literally
  - (C) stress the differences between Newton’s and Einstein’s ideas
  - (D) suggest that the word’s meaning may change at some point in the future
  - (E) show that Einstein is being quoted
9. In the author’s view, an advantage of “Einstein’s theory” over “Newton’s law” is that it deals with
- (A) the Moon
  - (B) particles
  - (C) rapidly-moving objects
  - (D) planets
  - (E) human-engineered spacecraft



Questions 10-19 are based on the following passage.

The following passage is excerpted from a biography of the American writer J.D. Salinger, author of the popular novel *The Catcher in the Rye*.

In the careers of most modern and contemporary writers, a pattern of activity emerges. After writers establish themselves, they produce their work, and periodically, about every three of four years, release that work by way of a publisher to the public. There are exceptions, since publishing-industry norms may or may not serve idiosyncratic writers. The author may be less prolific, as in the case of F. Scott Fitzgerald, because he or she struggles with a piece of writing for years before being able to let it go. Or they may write only one book, which ends up being a masterpiece, as Harper Lee did with *To Kill a Mockingbird*. Or the author may die before the public comes to appreciate the full genius of his or her work, as was the case with Sylvia Plath. However, most authors, even those inspired by true genius, write and publish on a regular basis, primarily because they want to communicate with an audience. In all likelihood, the same impulse forces writers to make themselves available to their readers in the various ways writers have access to—by giving readings, for example, or answering fan mail. After all, should authors be successful, it is the readers, the people who buy the books, who allow authors to enjoy the success they have achieved.

Almost all writers play by the rules of the game that have evolved in the publishing-industry establishment—they do so, of course, because they want to stay in the good graces of the publishers, the people who make the rules—but, in a career that has spanned over half a century, J.D. Salinger has refused to comply with even the most basic of the rules. Only once—teaching a class at Sarah Lawrence—has he appeared before an audience at all. He has made phone calls to journalists and has had chance

encounters with some, he has sat for a deposition or two, but he has never done a traditional interview. After the initial printings of his first book, he soon refused to allow his publisher to use a photograph of him on the dust jacket of any of his books. He has never communicated with his readers; over the years he has even gone so far as to instruct his agents to throw away his fan mail without even bothering to show it to him.

But there's more. At one point in his career, he decided he didn't want his stories reproduced in anthologies; then he demanded that the four books he did publish between 1951 and 1963 could remain in print in paperback only if each edition featured the text between two plain covers and nothing else—no advertising copy on the front cover, no glowing blurbs on the back cover, no biographical information about the author anywhere, nothing resembling the trappings a publisher uses to sell and promote an author and his work. Finally after 1965, even though he has often gone out of his way to let the public know he was continuing to write, he stopped publishing his work in either magazines or book form. By doing this, Salinger has achieved a kind of perverse celebrity: He has become a famous writer who writes but doesn't publish.

Consequently, Salinger's reputation, at least in the latter part of his life, is based not on the books he has written but on the books he has allowed to be published. Of course, *The Catcher in the Rye* is his major work. "Salinger is a writer of great charm and purposefully limited scope and a perfection within that narrow compass," says Harold Bloom. "*The Catcher in the Rye* struck a nerve for one generation but it seems to appeal to sensitive young people who are going to develop a consciousness and a distrust of the adult world. Probably it will survive." Tom Wolfe agrees: "*The Catcher in the Rye* captures the mood of the adolescent who wants desperately to fit in but doesn't want to seem as if he does, who wants to act flippantly but who, underneath that flippancy, has a great sorrow."



10. The “pattern of activity” mentioned in line 2 refers to
- (A) the path most modern writers take to achieve initial literary success
  - (B) the creative process writers use to express their ideas through writing
  - (C) the way most successful writers continue to supply their readers with new material
  - (D) the strategies writers use to convince publishers to distribute their work
  - (E) the various ways writers seek to change publishing-industry norms
11. The phrase “struggles with” in line 12 is closest in meaning to
- (A) resists
  - (B) battles
  - (C) strains against
  - (D) toils over
  - (E) strives toward
12. The author mentions Fitzgerald, Lee, and Plath in the first paragraph primarily in order to
- (A) give examples of writers who were “inspired by true genius”
  - (B) illustrate the prevalence of “publishing-industry norms”
  - (C) show ways authors have diverged from the typical career path
  - (D) demonstrate that masterpieces are difficult to produce
  - (E) suggest that the publishing industry has changed over the years
13. The word “available” in line 26 is closest in meaning to
- (A) obtainable
  - (B) present
  - (C) free
  - (D) accessible
  - (E) observable
14. The primary function of paragraph 2 is to
- (A) introduce J.D. Salinger as a writer who refuses to follow conventions
  - (B) catalog the ways in which writers communicate with the public
  - (C) illustrate the importance of publishers to a writer’s career
  - (D) explain J.D. Salinger’s attitude towards readers
  - (E) indicate the popularity of J. D. Salinger’s books
15. “More” in line 58 refers to
- (A) stories Salinger published in anthologies
  - (B) years Salinger wrote novels
  - (C) ways Salinger distanced himself from his readers
  - (D) readers who appreciated Salinger’s work
  - (E) rules of publishing generally obeyed by writers
16. In paragraph 3, the author suggests that Salinger’s fame
- (A) is due in part to his efforts to prevent his work from being read
  - (B) has declined since the publication of his works in the 50’s and 60’s
  - (C) is unwarranted because he published so few books
  - (D) would be greater if his publisher had promoted his work more vigorously
  - (E) is more important to him than his writing
17. According to the passage, Harold Bloom and Tom Wolfe agree that *The Catcher in the Rye*
- (A) expresses an enduring attitude of adolescents
  - (B) has a limited scope of relevance
  - (C) was written by an author who was a sensitive adolescent
  - (D) demonstrates a deep sense of sorrow
  - (E) approaches the struggles of youth with flippancy
18. The author uses the quotations by Bloom and Wolfe to
- (A) support the argument that Salinger’s reputation is based on unpublished books
  - (B) demonstrate that *The Catcher in the Rye* appeals to a young audience
  - (C) bolster the claim that *The Catcher in the Rye* is an important work
  - (D) illustrate two competing perspectives on Salinger’s work
  - (E) undermine the idea that Salinger has successfully avoided publicity
19. The overall tone of the passage could best be described as
- (A) critical
  - (B) laudatory
  - (C) quizzical
  - (D) informative
  - (E) argumentative



Questions 20-24 are based on the following passages.

The following passages are about the painter Mary Cassatt (1844-1926). The first passage is from a biography of Cassatt. The second passage discusses one of Cassatt's paintings entitled *At the Opera*.

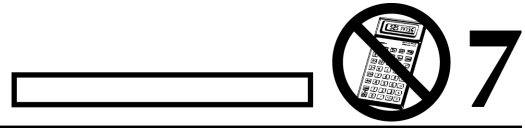
### Passage 1

Whether absorbed in a book,  
attentive to their needlework, or deep in  
personal contemplation, the women in  
Mary Cassatt's art find contentment in  
5 their solitude. And it is striking how  
frequently Cassatt depicted women on  
their own. Their poses and gestures  
define the boundaries of their privacy.  
They turn their backs to the viewer or  
10 incline their heads, attending only to their  
tasks. Their faces, when not obscured by  
shadow, express their deep concentration.  
Moreover, by presenting her sitters as  
deeply involved in their activities, Cassatt  
15 reminds the viewer to keep a respectful  
distance. Although these women engage  
in a variety of activities, they all share a  
sense of tranquil self-fulfillment. Each  
woman seems at ease with herself,  
20 perfectly content to be left alone.

### Passage 2

Cassatt's *At the Opera* represents a  
strong feminist point of view, as it depicts  
a lone woman attending a theatrical  
event. The young woman is turned away  
25 from us, while our gaze is mirrored in the  
background by a sketchily painted man  
with opera glasses who also intently  
directs his attention toward the attractive  
foreground figure. Cassatt's woman is not  
30 a beautiful seductress or a passive object  
for viewing pleasure. She has her own  
independence as she, too, actively looks  
beyond the picture frame with a small pair  
of opera glasses. Emulating other  
35 Impressionists, Cassatt composed the  
picture as a kind of photographic  
snapshot, or slice of life, but she  
employed the Impressionist emphasis on  
the act of seeing to assert the principle of  
40 sexual equality with men.

20. Which of the following best describes the relationship between the two passages?
- (A) Passage 1 connects the ideas expressed in Passage 2 to Cassatt's personal history.
  - (B) Passage 1 questions the assumptions about a Cassatt painting made in Passage 2.
  - (C) Passage 2 discusses a Cassatt painting that displays the thematic characteristics presented in Passage 1.
  - (D) Passage 2 celebrates the artistic qualities of Cassatt's paintings that Passage 1 criticizes.
  - (E) Passage 2 offers evidence that contradicts an argument about Cassatt presented in Passage 1.
21. The authors of both passages argue that
- (A) Cassatt was only interested in painting women
  - (B) Cassatt felt that women's work was unfulfilling
  - (C) Cassatt thought that most women did not want to be alone
  - (D) Cassatt painted women primarily to demonstrate their beauty
  - (E) Cassatt believed in the importance of a woman's independence
22. The author of Passage 1 would probably agree that Cassatt depicted the young woman in *At the Opera* as "turned away from us" (lines 24-25) in order to
- (A) focus on the elegance of the woman's profile
  - (B) show that the woman is concentrating on the opera
  - (C) follow the artistic conventions of the period
  - (D) create the sense that the woman is uncomfortable
  - (E) portray the idea that the woman is attempting to be seen



23. In lines 36-37, the phrase “photographic snapshot” is probably meant to suggest that Cassatt

- (A) created the painting to resemble a photograph
- (B) used a style that was a precursor to photographic art
- (C) portrayed the woman in an everyday situation
- (D) made the woman appear as though she were posing for a photograph
- (E) depicted the woman as caught off guard by the man in the painting

24. According to Passage 1, why did Cassatt seemingly want viewers to “keep a respectful distance” (lines 15-16) from the women in her paintings?

- (A) Cassatt thought her paintings could be appreciated best from a distance.
- (B) Cassatt felt it was inappropriate for strangers to be too close to a woman.
- (C) Cassatt usually preferred not to paint close-ups of women.
- (D) Cassatt did not want the female models she used to be recognized.
- (E) Cassatt wanted to emphasize that women’s activities were important.

## STOP

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



## SECTION 8

Time — 20 minutes

19 Questions

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

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

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

**Example:**

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

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

(A) (B) (C) (D) ●

- Angered that the book arrived in the mail in such a shabby condition, Elliot insisted that the bookseller replace it with ----- copy.  
(A) an imitation (B) an authentic  
(C) a pristine (D) a generic  
(E) a shopworn
- Staring at the abstract painting, Edna could not understand how so many of her fellow museumgoers could pretend to ----- its meaning, when to her its message was so opaque.  
(A) obscure (B) advertise (C) comprehend  
(D) disparage (E) ignore
- Mrs. Rodriguez was under the impression that discipline would ----- her wayward student's academic progress rather than advance it.  
(A) condone (B) foster (C) quicken  
(D) exalt (E) hamper
- Despite the director's lifelong reputation for humility, the retirement celebration found him unable to ----- the urge to ----- his successes.  
(A) quell . . downplay  
(B) resist . . catalog  
(C) embrace . . embellish  
(D) forego . . diminish  
(E) modify . . belittle
- Despite his ----- rich food, the chef was able to practice ----- when his diet became threatening to his health.  
(A) penchant for . . austerity  
(B) fondness for . . indulgence  
(C) avoidance of . . luxury  
(D) indifference to . . asceticism  
(E) talent for . . virtuosity
- Raul's game-winning goal in the closing minutes of the game ----- his well-known ability to excel under stressful conditions.  
(A) clarified (B) solidified (C) identified  
(D) epitomized (E) decried



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

**Questions 7-19 are based on the following passage.**

Grammatical errors like *bleeded* and *singed* have long epitomized the innocence and freshness of children's minds. The errors are acts of creation in which children lift a pattern from their brief experience and apply it with impeccable logic to new words, unaware that the adult world treats them as arbitrary exceptions. In *A Dark-Adapted Eye*, the novelist Barbara Vine introduces an unlikely child by remarking, "He would refer to 'adults' instead of 'grownups' and get all his past tenses right, never saying 'rided' for 'rode' or 'eated' for 'ate'."

Children's errors with irregular verbs also have been prominent in debates on the nature of language and mind. The neurologist Eric Lenneberg pointed to the errors when he and linguist Noam Chomsky first argued that language was innate. Psychology textbooks cite the errors to rhapsodize that children are lovers of cognitive tidiness and simplicity; researchers who study learning in adults cite the errors as a paradigm case of the human habit of overgeneralizing rules to exceptional cases.

Nothing is more important to the theory of words and rules than an explanation of how children acquire rules and apply them—indeed overapply them—to words. The simplicity of these errors is deceptive. It is not easy to explain why children start making them, and it's harder to explain why they stop.

Overgeneralization errors are a symptom of the open-ended productivity of language, which children indulge in as soon as they begin to put words together. At around eighteen months children start to utter two word microsentences like "See baby" and "More cereal." Some are simply telegraphic renditions of their parents' speech, but many are original

productions. "More outside!" says a tot who wants to play in the park. "Allgone sticky!" says another after his mother has washed jam off his fingers. By two years of age, children produce longer and more complicated sentences, and begin to supply grammatical morphemes such as *-ing*, *-ed*, *-s* and the auxiliaries. Sometime between the end of the second year and the end of the third year, children begin to overgeneralize *-ed* to irregular verbs.

Jennifer Ganger and I suspected that at least some of the timing of language development, including the past-tense rule, is controlled by a maturational clock. Children may begin to acquire a rule at a certain age for the same reason they grow hair or teeth at certain ages. If the clock is partly under the control of genes, then identical twins should develop language in tighter synchrony than fraternal twins, who share only half their genes. We have enlisted the help of hundreds of mothers of twins who send us daily lists of their children's new words and word combinations. The checklists show that vocabulary growth, the first word combinations, and the rate of making past-tense errors are all in tighter lockstep in identical twins than in fraternal twins. The results tell us that at least some of the mental events that make a child say *singed* are hereditary. The very first past-tense error, though, is not. When one twin makes an error like *singed* for the first time, an identical twin is no quicker to follow suit than a fraternal twin. These gaps—an average of 34 days between the first past-tense errors made by two children with the same genes exposed to the same speech—are a reminder of the importance of sheer chance in children's development. Children's speech errors, which make such engaging anecdotes in poetry, novels, television features and Web sites for parents, may help us untangle one of the thickest knots in science, nature and nurture. When a child says "It bled"



and “It singed,” the fingerprints of learning are all over the sentence. Every bit of every word has been learned, including the past tense suffix *-ed*. The  
100 very existence of the error comes from a process of learning that is still incomplete: mastery of the irregular *bled* and *sang*.

But learning is impossible without innately organized circuitry to do the  
105 learning, and these errors give us hints of how it works. Children are born to attend to minor differences in the pronunciation of words, such as *walk* and *walked*. They seek a systematic basis for the difference  
110 in the meaning or form of the sentence, rather than dismissing it as haphazard variation in speech styles. They dichotomize time into past and nonpast, and correlate half the timeline with the  
115 evanescent word ending. They must have a built-in tendency to block the rule when a competing form (like *bled*) is found in memory, because there is no way they could learn the blocking principle in the  
120 absence of usable feedback from their parents. Their use of the rule (though perhaps not the moment when they first use it) is partly guided by their genes.

7. The word “lift” in line 5 most closely means

- (A) raise
- (B) elevate
- (C) make better
- (D) boost up
- (E) take

8. The author suggests that the “unlikable” child in *A Dark-Adapted Eye*

- (A) did not enjoy speaking with grownups
- (B) spoke like most other children
- (C) never wanted to be introduced to other children
- (D) did not speak with childlike errors
- (E) was always making up new confusing words

9. The primary purpose of the second paragraph is to

- (A) indicate the extent of scholarly disagreement about the nature of children’s speech errors
- (B) demonstrate the universal occurrence of children’s speech errors
- (C) list the scholars who have influenced academic understanding of children’s speech errors
- (D) endorse a particular explanation for children’s speech errors
- (E) show that children’s speech errors have received widespread scholarly attention

10. The word “tidiness” in line 24 is closest in meaning to

- (A) cleanliness
- (B) neatness
- (C) orderliness
- (D) quickness
- (E) snugness

11. The word “overapply” in line 32 refers to the

- (A) considerable effort children give to speaking
- (B) misunderstanding scholars have of simple speech errors
- (C) faulty application of scholarly theories to children’s speech
- (D) strict adherence of children to certain linguistic rules
- (E) misguided training that children often receive from parents

12. The phrase “open-ended productivity of language” in lines 38-39 refers to

- (A) the lack of rules governing language use
- (B) the vulnerability of language to errors
- (C) the creative quality inherent in language use
- (D) the variety of different existing languages
- (E) the effort involved in using language correctly



13. “More outside” and “Allgone sticky” (lines 46 and 47-48) are examples of
- (A) overgeneralization errors frequently made by children
  - (B) exceptional instances of children’s language use
  - (C) children’s attempts to communicate by thinking rather than mimicking
  - (D) speech used by parents to communicate with their children
  - (E) sentences displaying children’s use of grammatical morphemes
14. By “fingerprints of learning” (lines 96-97) the author primarily means
- (A) demonstration of sustained effort
  - (B) indication of parental influence
  - (C) results of faulty thinking
  - (D) evidence of acquired information
  - (E) illustration of genetic ability
15. In paragraph 6 (lines 90 to 102), the author suggests that children’s speech errors
- (A) are overused as examples in literature and art
  - (B) have important scientific implications
  - (C) can be easily unlearned
  - (D) indicate problems with linguistic rules
  - (E) are solely determined by genetics
16. “Innately organized circuitry” in line 104 refers to
- (A) ways of teaching language that all parents use
  - (B) rules children learn to apply to language use
  - (C) differences in meaning suggested by complex sentences
  - (D) children’s natural ability to process distinctions in language use
  - (E) combinations of words occurring in all languages
17. The phrase “attend to” in lines 106-107 most closely means
- (A) look after
  - (B) notice
  - (C) activate
  - (D) be present to
  - (E) associate with
18. Paragraph 7 (lines 103 to 123) describes
- (A) the way children combine rules and memories during language development
  - (B) the natural tendency children have to confuse linguistic rules
  - (C) the forms of resistance children show to identifying new linguistic rules
  - (D) the methods of learning that children use in the absence of parental feedback
  - (E) the principles underlying a child’s very first utterance
19. Which of the following best characterizes the author’s attitude in the passage toward children’s errors in language development?
- (A) scientific interest
  - (B) personal fascination
  - (C) scholarly indifference
  - (D) general confusion
  - (E) tempered frustration

**STOP**

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



## SECTION 9

Time — 20 minutes

16 Questions

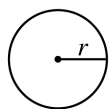
Turn to Section 9 (page 7) of your answer sheet to answer the questions in this section.

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

Notes

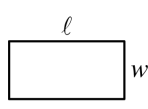
- The use of a calculator is permitted.
- All numbers used are real numbers.
- Figures that accompany problems in this test are intended to provide information useful in solving the problems. They are drawn as accurately as possible EXCEPT when it is stated in a specific problem that the figure is not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

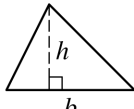


$$A = \pi r^2$$

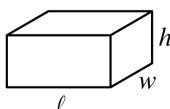
$$C = 2\pi r$$



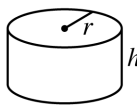
$$A = \ell w$$



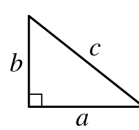
$$A = \frac{1}{2}bh$$



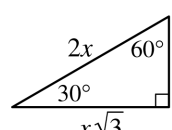
$$V = \ell wh$$



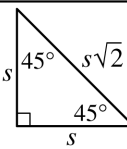
$$V = \pi r^2 h$$



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



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.

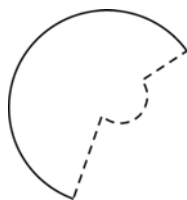
1. Which of the following represents the total cost, in dollars, of  $x$  rolls of wrapping paper that cost \$6 each and  $y$  greeting cards that cost \$2 each?

- (A)  $2x + 6y$   
 (B)  $6x + 2y$   
 (C)  $8(x + y)$   
 (D)  $0.8(x + y)$   
 (E)  $(2 + x)(6 + y)$

2. If  $\frac{1}{5} + \frac{1}{6} + \frac{1}{7} < \frac{1}{5} + \frac{1}{6} + \frac{1}{y}$ , then  $y$  could be which of the following?

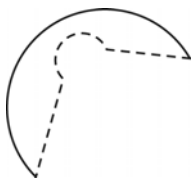
- (A) 6  
 (B) 7  
 (C) 8  
 (D) 9  
 (E) 10

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3. A circle was cut into two pieces, and one of the pieces is shown above, with the dashed line indicating the path of the cut. Which of the following could be the other piece of the circle?

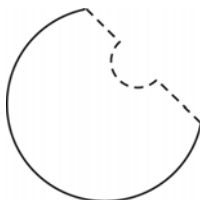
(A)



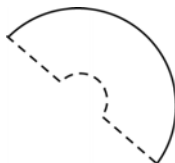
(B)



(C)



(D)



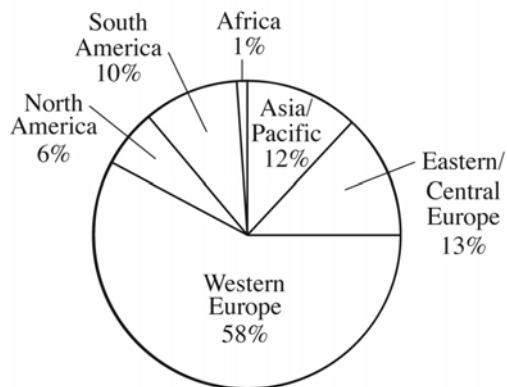
(E)



4. If  $a + b = 40$  and  $a < 15$ , which of the following must be true?

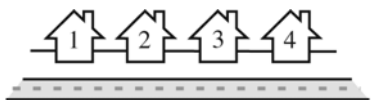
- (A)  $a > 0$   
 (B)  $b < 25$   
 (C)  $b = 25$   
 (D)  $b > 25$   
 (E)  $b < 40$

CARS MADE BY COMPANY R



5. Company R makes cars in many locations around the world. The graph above shows where its cars were made in 2003. If the company made 5,000,000 cars in 2003, how many of these cars were made in South America?

- (A) 50  
 (B) 500  
 (C) 5,000  
 (D) 50,000  
 (E) 500,000



6. Above are the four houses on a block of Oak Road. Each house is painted a different color. There is a red house, which is next to a blue house. There is a green house, which is next to the red house and a yellow house. Which house could be painted red?

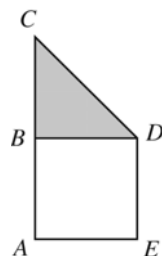
(A) 1 only  
(B) 2 only  
(C) 3 only  
(D) 2 or 3  
(E) 1 or 4

7. If  $x > 0$ , then  $x\left(\frac{x^2}{x^2} - \frac{x^2}{x^2}\right) =$

(A) 0  
(B) 1  
(C)  $x$   
(D)  $x^2$   
(E)  $x - 1$

8. A box of staples contains 4,600 staples that are either silver, black, or red. If 46 percent of the staples are silver and 46 percent are black, what percent are red?

(A) 8%  
(B) 18%  
(C) 46%  
(D) 54%  
(E) 92%



9. In the figure above,  $ABDE$  is a square,  $\triangle BCD$  is a right triangle, and  $AB = BC$ . If a point is chosen at random from polygon  $ACDE$ , what is the probability that the chosen point is in the shaded region?

(A)  $\frac{1}{2}$   
(B)  $\frac{1}{3}$   
(C)  $\frac{1}{4}$   
(D)  $\frac{1}{5}$   
(E)  $\frac{1}{6}$



10. What is an equation of the line parallel to the  $x$ -axis and two units above the  $x$ -axis?

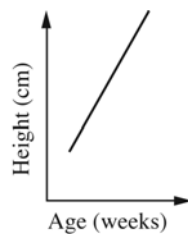
(A)  $x = -2$   
 (B)  $x = 2$   
 (C)  $y = -2$   
 (D)  $y = 0$   
 (E)  $y = 2$

HEIGHT OF A PLANT

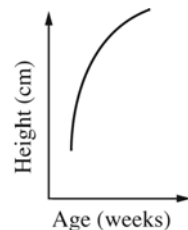
Age (in weeks)	4	5	6	7	8
Height (in centimeters)	8	18	22	24	25

11. Which of the following graphs best represents the information in the table above?

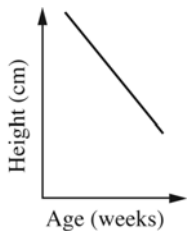
(A)



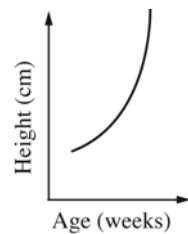
(B)



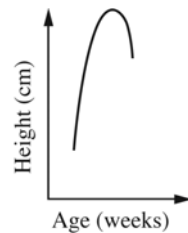
(C)



(D)



(E)

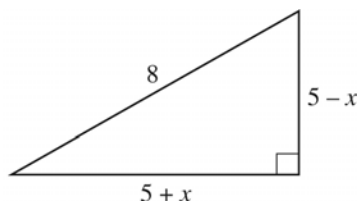


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12. A set has property  $X$  if  $t^2 - t$  is in the set whenever  $t$  is in the set. Which of the following sets has property  $X$ ?

- (A)  $\{-2, -1, 0\}$   
 (B)  $\{-1, 0\}$   
 (C)  $\{-1, 0, 1\}$   
 (D)  $\{0, 1\}$   
 (E)  $\{1, 2\}$



Note: Figure not drawn to scale.

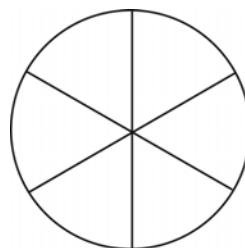
13. The figure above is a right triangle. What is the value of  $25 + x^2$ ?

- (A) 32  
 (B) 34  
 (C) 39  
 (D) 50  
 (E) 64

14. If  $t$  is an integer,  $t > 2$ , and  $z = t + \frac{2}{t}$ , which of the following must be true?

- I.  $z \neq t$   
 II.  $z$  is an integer.  
 III.  $tz > t^2$

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



15. The circle above has an area of  $49\pi$  and is divided into 6 congruent regions. What is the perimeter of one of these regions?

- (A)  $14 - 49\pi$   
 (B)  $14 + \frac{7}{6}\pi$   
 (C)  $14 + \frac{7}{3}\pi$   
 (D)  $14 + 7\pi$   
 (E)  $14 + 49\pi$



16. The original price of a book was  $b$  dollars. This price was discounted  $x$  percent during a sale. James used a coupon to buy the book for  $t$  percent off the sale price. Which of the following represents the price, in dollars, that James paid for the book?

(A)  $b\left(1 - \frac{x}{100}\right)\left(1 - \frac{t}{100}\right)$

(B)  $b\left(\frac{(1-x)(1-t)}{100}\right)$

(C)  $b\left(1 - \frac{x+t}{100}\right)$

(D)  $b\left(1 - \frac{xt}{100}\right)$

(E)  $b\left(\frac{x}{100}\right)\left(\frac{t}{100}\right)$

**STOP**

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



# SECTION 10

Time — 10 minutes

14 Questions

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

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

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

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

EXAMPLE:

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

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

(A) ● (C) (D) (E)

1. If every nation were completely self-sufficient and operated under a free-market economy, the world's food supply will be governed solely by the economics of supply and demand.
  - (A) will be
  - (B) would have been
  - (C) was to be
  - (D) was
  - (E) would be

2. Gold leaf is pure gold that is hammered so thin for it to take 300,000 units to make a stack one inch high.
  - (A) for it to take
  - (B) so that it takes
  - (C) so it takes
  - (D) as for it to take
  - (E) that it takes
3. By far the best-known work of poet Emma Lazarus is the sonnet "New Colossus," it was chosen to be the inscription for the pedestal of the Statue of Liberty in 1886.
  - (A) it was chosen to be
  - (B) choosing it to be
  - (C) which they chose for
  - (D) which was chosen as
  - (E) they chose it as
4. The gong was believed to have originated in Western Asia, reached China in the sixth century, where it continues to be used for a wide range of purposes, including as a military signal, a rhythmic accompaniment for vocal performance, and a ritual instrument.
  - (A) The gong was believed to have originated in Western Asia, reached
  - (B) The gong, it is believed, originated in Western Asia, reached
  - (C) The gong, believed to have originated in Western Asia, reached
  - (D) The gong is believed to originate in Western Asia, and reaching
  - (E) The gong, they believe, has originated in Western Asia, reaching



5. Galileo was probably the first to discover Saturn's rings, although his telescope was so small, he could not see the rings properly and assumed that they were satellites.
- (A) although  
(B) but because  
(C) since  
(D) and  
(E) nevertheless
6. The Olmec people, widely regarded as the creators of the first civilization in Mesoamerica, the area encompassing much of Mexico and Central America.
- (A) people, widely  
(B) people, which are widely  
(C) people, they are widely  
(D) people will be widely  
(E) people are widely
7. Although their language and people that are not of European origin, Finland is generally considered part of Scandinavia, which also includes Norway, Sweden, and Denmark.
- (A) their language and people that are  
(B) it has a language and people that are  
(C) they have languages and people  
(D) its language and people are  
(E) there are languages and people that are
8. Unlike the hollow body of an acoustic guitar, which acts as a sound box to project sound, the solid-body electric guitar is almost soundless without the aid of an amplification system.
- (A) the hollow body of an acoustic guitar, which acts  
(B) the hollow body that an acoustic guitar has, it acts  
(C) an acoustic guitar's hollow body, acting  
(D) an acoustic guitar, whose hollow body acts  
(E) an acoustic guitar and its hollow body, acting
9. Fireflies, or lightning bugs, are actually soft-bodied beetles, most of whom producing light in special organs located in the undersides of their abdomens.
- (A) of whom producing  
(B) of which produce  
(C) of them produce  
(D) produce  
(E) to produce
10. To satisfy the curious, to protect their market, and it discouraged competitors when the earliest spice traders spread fantastic tales of spices growing in shallow lakes guarded by winged animals and in deep glens infested with poisonous snakes.
- (A) it discouraged competitors when  
(B) it discouraged competitors,  
(C) discouraging competitors made  
(D) to discourage competitors, when  
(E) to discourage competitors,
11. The most notorious quick-draw gunman of the Texas frontier, John Wesley Hardin's exploits were written about in an autobiography published posthumously, *The Life of John Wesley Hardin as Written by Himself*.
- (A) John Wesley Hardin's exploits were written about  
(B) John Wesley Hardin's exploits are recorded  
(C) John Wesley Hardin wrote about his exploits  
(D) the exploits of John Wesley Hardin were written about  
(E) the exploits of John Wesley Hardin are recorded



12. With one of the most successful African American businesses in history, the Motown Record Corporation was founded in 1959 in Detroit by Berry Gordy, Jr.
- (A) With one  
(B) It was one  
(C) Being one  
(D) One  
(E) As one
13. Adult ladybugs often prey on agricultural or garden pests, causing many fruit growers to consider them among the most beneficial insects.
- (A) causing many fruit growers to  
(B) therefore, many fruit growers  
(C) this causes many fruit growers to  
(D) which cause many fruit growers to  
(E) many fruit growers
14. Environmentally hazardous contamination of the water and air is one of the more serious and complex issues facing urban centers in the United States, where they have an effect on public health, property values, and the quality of life is magnified by the density of population.
- (A) they have an  
(B) their  
(C) an  
(D) it has an  
(E) its

## 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.

**NO TEST MATERIAL ON THIS PAGE**