

SECTION 4

Time - 30 Minutes

25 Questions

Following each problem in this section, there are five suggested answers. Work each problem in your head or in the blank space provided at the right of the page. Then look at the five suggested answers and decide which one is best.

Note: Figures that accompany problems in this section are drawn as accurately as possible EXCEPT when it is stated in a specific problem that its figure is not drawn to scale.

Sample Problem:

5,413	(A) 586
- 4,827	(B) 596
<hr/>	(C) 696
	(D) 1,586
	(E) 1,686

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

1. Joe had flags of 22 different countries in his collection. His uncle brought him 8 new flags. Of these, 3 were from countries he already had in his collection. How many flags of different countries did Joe then have?

USE THIS SPACE FOR FIGURING.

- (A) 22
(B) 25
(C) 27
(D) 30
(E) 33
2. At 6 a.m. the temperature was 5 degrees below zero. If it had risen 11 degrees by noon, then the temperature at noon was
- (A) 16° below zero
(B) 6° below zero
(C) 5° below zero
(D) 6° above zero
(E) 16° above zero

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3. According to the graph in Figure 1, Maria spent about how much money on school supplies?

- (A) \$1.00
 (B) \$1.70
 (C) \$2.00
 (D) \$2.50
 (E) \$3.00

USE THIS SPACE FOR FIGURING.

4

HOW MARIA USED
 HER \$5 ALLOWANCE

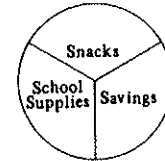


Figure 1

4. If $\frac{1}{4} N = 12$, then $\frac{1}{2} N =$

- (A) 3
 (B) 6
 (C) 24
 (D) 48
 (E) 96

5. Figure 2 shows a fence with posts 10 meters apart. A cow is tied to the center post by a rope 20 meters long. Which best shows the size and shape of the region in which the cow can graze?

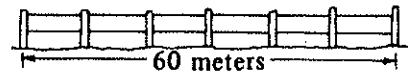


Figure 2

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

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6. Nancy prepared exactly twice as many hamburgers as hot dogs for her party. Which could be the total number of hamburgers and hot dogs she prepared?
- (A) 10
(B) 13
(C) 16
(D) 18
(E) 25

USE THIS SPACE FOR FIGURING.

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7. According to the graph in Figure 3, Jackie's average salary for the 4 years 1987 through 1990 was
- (A) \$16,000
(B) \$16,750
(C) \$17,000
(D) \$17,500
(E) \$17,750

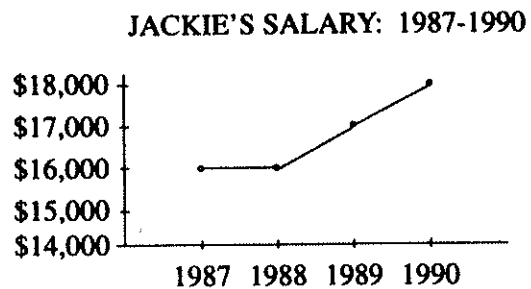


Figure 3

Questions 8-10 refer to the following definition.

For all real numbers f and p , $\boxed{f \mid p} = (f + p) + (f \times p)$.

(Example: $\boxed{3 \mid 5} = (3 + 5) + (3 \times 5) = 8 + 15$)

8. $\boxed{6 \mid 2} =$
- (A) 3
(B) 8
(C) 12
(D) 16
(E) 20

9. If $\boxed{N \mid 4} = 54$, then $N =$
- (A) 5
(B) 10
(C) 11
(D) 14
(E) 50

GO ON TO THE NEXT PAGE.

10. If f is any number not equal to zero, which of the following must be true?

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I. $\begin{array}{|c|c|} \hline f & p \\ \hline \end{array} = \begin{array}{|c|c|} \hline p & f \\ \hline \end{array}$

II. $\begin{array}{|c|c|} \hline f & 0 \\ \hline \end{array} = 0$

III. $\begin{array}{|c|c|} \hline f & \frac{1}{f} \\ \hline \end{array} = 1$

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

11. When two square regions overlap, what can the shape of the overlapping portion be?

- I. Square
II. Triangular
III. Rectangular

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

12. Of the following, 15 percent of \$8.95 is closest to

- (A) \$1.95
(B) \$1.75
(C) \$1.50
(D) \$1.35
(E) \$1.00

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13. Betsy raked leaves from 9:30 a.m. to 11:00 a.m. and finished $\frac{1}{4}$ of the yard. She wants to finish raking the yard by 6:30 p.m. If she plans to rake at the same rate, what is the latest time that she can start raking the leaves again?

USE THIS SPACE FOR FIGURING.

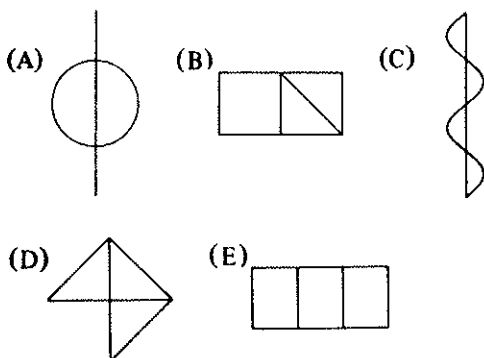
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- (A) 12:30 p.m.
(B) 1:00 p.m.
(C) 2:00 p.m.
(D) 3:30 p.m.
(E) 5:00 p.m.

14. John has x dollars. Ann has \$5 more than John. If Ann gives John \$10, then, in terms of x , how many dollars will Ann have?

- (A) $x - 15$
(B) $x - 10$
(C) $x - 5$
(D) $x + 5$
(E) $x + 15$

15. Which figure CANNOT be drawn without lifting the pencil or retracing?



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16. If 0.39 is about $\frac{N}{10}$, then N is closest to which of the following?

(A) 0.4
(B) 3
(C) 4
(D) 39
(E) 40

USE THIS SPACE FOR FIGURING.

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17. If the average of 5 consecutive whole numbers is 12, what is the largest number?

(A) 14
(B) 16
(C) 17
(D) 22
(E) 60

18. Automobile sales in the United States dropped from 10.7 million units one year to 9.3 million the next year. The decrease was closest to what percent?

(A) 1%
(B) 13%
(C) 14%
(D) 15%
(E) 20%

$$\begin{array}{r} 25 \text{ remainder } 1 \\ 17 \overline{) A} \end{array} \qquad \begin{array}{r} 26 \\ 17 \overline{) B} \end{array}$$

19. In the problems above, $B - A =$

(A) 0
(B) 1
(C) 16
(D) 18
(E) 24

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20. What is the greatest number of squares 5 centimeters on a side that can be cut from a rectangular piece of construction paper 60 centimeters long and 45 centimeters wide?

USE THIS SPACE FOR FIGURING.

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- (A) 75
(B) 90
(C) 96
(D) 108
(E) 540

21. A store regularly sells books at 20% off the list price. At a sale its regular prices are reduced 10 percent. The sale price is what percent of the list price?

- (A) 30%
(B) 70%
(C) 72%
(D) 79%
(E) 85%

22. In a class, $\frac{1}{8}$ of the boys and $\frac{1}{4}$ of the girls play the piano, and 3 times as many girls as boys play the piano. If there are 100 boys and girls in the class, how many boys play the piano?

- (A) 3
(B) 5
(C) 12
(D) 24
(E) 25

23. A store has square rugs in three sizes. A side of the largest rug is twice as long as a side of the middle one, and a side of the middle one is twice as long as a side of the smallest one. What is the ratio of the area that the largest rug will cover to the area that the smallest one will cover?

- (A) 3 to 1
(B) 4 to 1
(C) 8 to 1
(D) 9 to 1
(E) 16 to 1

GO ON TO THE NEXT PAGE.

24. If x is greater than y and y is greater than 1, which of the following is LEAST?

USE THIS SPACE FOR FIGURING.

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- (A) $\frac{1}{x}$
(B) $\frac{1}{y}$
(C) $\frac{1}{x-y}$
(D) $\frac{1}{y-x}$
(E) It cannot be determined from the information given.

25. The price of a cold roast beef lunch is \$4.80 and the price of a hot roast beef lunch is \$5.40. If both prices include 20 percent for tax and tip, what is the difference in price before tax and tip?

- (A) \$0.12
(B) \$0.40
(C) \$0.50
(D) \$0.60
(E) \$0.72

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.