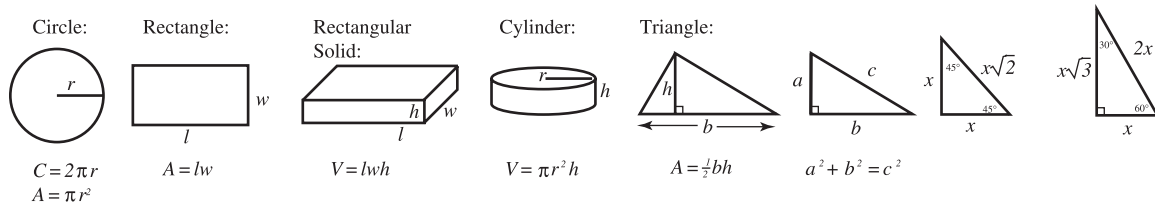


PRACTICE TEST A

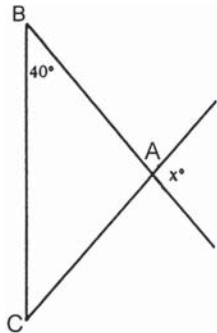
Section 1

25 Questions

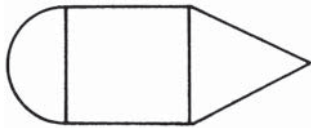
Time: 30 Minutes



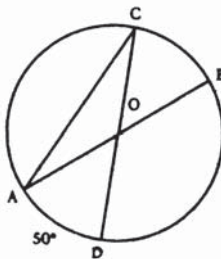
The number of degrees of arc in a circle is 360.
The measure in degrees of a straight angle is 180.
The sum of the measures in degrees of the angles of a triangle is 180.

- If 20% of a number is 8, what is 25% of the number?
(A) 2
(B) 10
(C) 12
(D) 11
(E) 15
- If $x + 3$ is a multiple of 3, which of the following is not a multiple of 3?
(A) x
(B) $x + 6$
(C) $6x + 18$
(D) $2x + 6$
(E) $3x + 5$
- In the figure below, $AB = AC$. Then $x =$

(A) 40°
(B) 80°
(C) 100°
(D) 60°
(E) 90°
- $\left(\frac{2}{5} \div \frac{2}{3}\right) + \left(\frac{1}{2} - \frac{1}{10}\right) =$
(A) $-\frac{1}{10}$
(B) $-\frac{1}{7}$
(C) $\frac{19}{15}$
(D) $\frac{1}{5}$
(E) 1
- The toll on the Islands Bridge is \$1.00 for car and driver and \$.75 for each additional passenger. How many people were riding in a car for which the toll was \$3.25?
(A) 2
(B) 3
(C) 4
(D) 5
(E) none of these
- If $y^3 = 2y^2$ and $y \neq 0$, then y must be equal to
(A) 1
(B) $\frac{1}{2}$
(C) 2
(D) 3
(E) -1

7. If x and y are negative integers and $x - y = 1$, what is the least possible value for xy ?
- (A) 0
 (B) 1
 (C) 2
 (D) 3
 (E) 4
8. A park is in the shape of a square, a triangle, and a semicircle, attached as in the diagram below. If the area of the square is 144 and the perimeter of the triangle is 28, find the perimeter of the park.

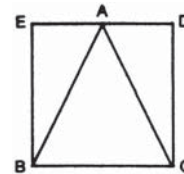


- (A) $52 + 12\pi$
 (B) $52 + 6\pi$
 (C) $40 + 6\pi$
 (D) $34 + 12\pi$
 (E) $32 + 6\pi$
9. An oil tank has a capacity of 45 gallons. At the beginning of October it is 80% full. At the end of October it is $\frac{1}{3}$ full. How many gallons of oil were used in October?
- (A) 21
 (B) 25
 (C) 41
 (D) 27
 (E) 30
10. \overline{AB} and \overline{CD} are diameters of circle O . The number of degrees in angle CAB is



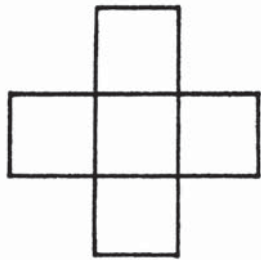
- (A) 50
 (B) 100
 (C) 130
 (D) $12\frac{1}{2}$
 (E) 25

11. If $\frac{a}{b} \cdot \frac{b}{c} \cdot \frac{c}{d} \cdot \frac{d}{e} \cdot x = 1$, then x must equal
- (A) $\frac{a}{e}$
 (B) $\frac{e}{a}$
 (C) e
 (D) $\frac{1}{a}$
 (E) none of these
12. If the sum of x and y is z and the average of m , n , and p is q , find the value of $x + y + m + n + p$ in terms of z and q .
- (A) $2z + 3q$
 (B) $z + 3q$
 (C) $z + z + \frac{q}{3}$
 (D) $\frac{z}{2} + \frac{q}{3}$
 (E) none of these
13. Isosceles triangle ABC is inscribed in square $BCDE$ as shown. If the area of square $BCDE$ is 4, the perimeter of triangle ABC is



- (A) 8
 (B) $2 + \sqrt{5}$
 (C) $2 + 2\sqrt{5}$
 (D) $2 + \sqrt{10}$
 (E) 12
14. If a is not 0 or 1, a fraction equivalent to $\frac{\frac{1}{a}}{2 - \frac{2}{a}}$ is
- (A) $\frac{1}{2a-2}$
 (B) $\frac{2}{a-2}$
 (C) $\frac{1}{a-2}$
 (D) $\frac{1}{a}$
 (E) $\frac{2}{2a-1}$
15. At 3:30 P.M. the angle between the hands of a clock is
- (A) 90°
 (B) 80°
 (C) 75°
 (D) 72°
 (E) 65°

16. A clerk's weekly salary is \$320 after a 25% raise. What was his weekly salary before the raise?
- (A) \$256
(B) \$260
(C) \$300
(D) \$304
(E) \$316
17. The figure below is composed of 5 equal squares. If the area of the figure is 125, find its perimeter.



- (A) 60
(B) 100
(C) 80
(D) 75
(E) 20
18. Which of the following is equal to $\frac{1}{2}$ of $\frac{3}{5}$?
- (A) 3%
(B) $33\frac{1}{3}\%$
(C) 30%
(D) $83\frac{1}{3}\%$
(E) 120%
19. The length of an arc of a circle is equal to $\frac{1}{5}$ of the circumference of the circle. If the length of the arc is 2π , the radius of the circle is
- (A) 2
(B) 1
(C) 10
(D) 5
(E) $\sqrt{10}$
20. If two sides of a triangle are 3 and 4 and the third side is x , then
- (A) $x = 5$
(B) $x > 7$
(C) $x < 7$
(D) $1 < x < 7$
(E) $x > 7$ or $x < 1$
21. The smallest integer that, when squared, is less than 5 is

- (A) 0
(B) 1
(C) 2
(D) 3
(E) none of these

22. Mr. Prince takes his wife and two children to the circus. If the price of a child's ticket is $\frac{1}{2}$ the price of an adult ticket and Mr. Prince pays a total of \$12.60, find the price of a child's ticket.

- (A) \$4.20
(B) \$3.20
(C) \$1.60
(D) \$2.10
(E) \$3.30

23. If $\begin{pmatrix} a \\ b & c \end{pmatrix}$ is defined as being equal to $ab - c$, then $\begin{pmatrix} 3 \\ 4 & 5 \end{pmatrix} + \begin{pmatrix} 5 \\ 6 & 7 \end{pmatrix}$ is equal to

- (A) 30
(B) 40
(C) 11
(D) 6
(E) 15

24. The diameter of a circle is increased by 50%. The area is increased by

- (A) 50%
(B) 100%
(C) 125%
(D) 200%
(E) 250%

25. Of the students at South High, $\frac{1}{3}$ are seniors. Of the seniors, $\frac{3}{4}$ will go to college next year. What percent of the students at South High will go to college next year?

- (A) 75
(B) 25
(C) $33\frac{1}{3}$
(D) 50
(E) 45