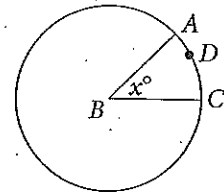


PRACTICE SET

Basic

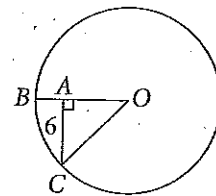
- If the area of a circle is 64π , then the circumference of the circle is
 - 8π
 - 16π
 - 32π
 - 64π
 - 128π
- If d is the diameter of a circle, then πd^2 represents
 - the area of the circle
 - half the area of the circle
 - twice the area of the circle
 - one-fourth the area of the circle
 - four times the area of the circle
- If the minute hand of a clock moves 45 degrees, how many minutes of time have passed?
 - 6
 - 7.5
 - 15
 - 30
 - 36.5
- If the circumference of a circle is 1, what is the radius of the circle?
 - $\frac{1}{2\pi}$
 - $\frac{1}{\pi}$
 - $\frac{1}{2}$
 - $\frac{\pi}{2}$
 - π



Note: Figure not drawn to scale.

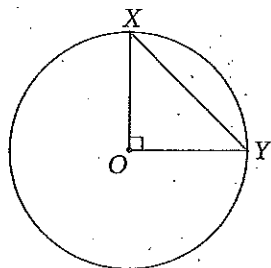
- In the figure above, the ratio of the circumference of circle B to the length of arc ADC is 8:1. What is the value of x ?

Medium

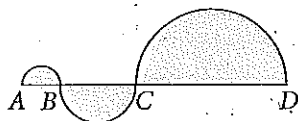


Note: Figure not drawn to scale.

- In the figure above, if the area of the circle with center O is 100π and CA has a length of 6, what is the length of AB ?
 - 2
 - 3
 - 4
 - 5
 - 6

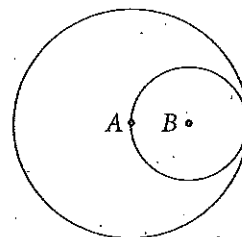


7. In the figure above, O is the center of the circle. If the area of triangle XOY is 25, what is the area of the circle?
- (A) 25π
 (B) $25\pi\sqrt{2}$
 (C) 50π
 (D) $50\pi\sqrt{3}$
 (E) 625π

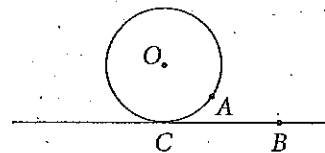


Note: Figure not drawn to scale.

8. Each of the 3 shaded regions above is a semicircle. If $AB = 4$, $CD = 2BC$, and $BC = 2AB$, then the area of the entire shaded figure is
- (A) 28π
 (B) 42π
 (C) 84π
 (D) 96π
 (E) 168π



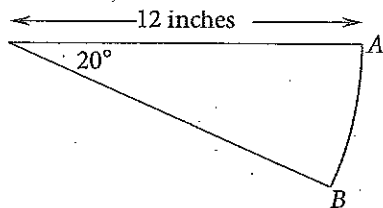
9. In the diagram above, if the circle with center A has an area of 72π , what is the area of the circle with center B ?
- (A) 18π
 (B) 24π
 (C) 30π
 (D) 36π
 (E) 48π



10. In the figure above, O is the center of the circle with radius x (not shown). If CB is tangent to the circle at C and $CB = 2x$, what is the measure of AB ?
- (A) $x\sqrt{5} - x$
 (B) $x\sqrt{5}$
 (C) 5
 (D) $5x - x$
 (E) $5x$

Hard

11. If the diameter of a circle increases by 50 percent, by what percent will the area of the circle increase?
- (A) 25%
 (B) 50%
 (C) 100%
 (D) 125%
 (E) 225%

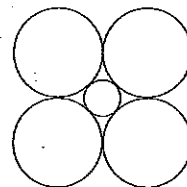


12. The figure above shows the path traced by the hand of a scale as it moves from A to B . What is the area, in square inches, of the region passed over by the scale's hand?

(A) 2π
(B) 8π
(C) 12π
(D) 16π
(E) 144π

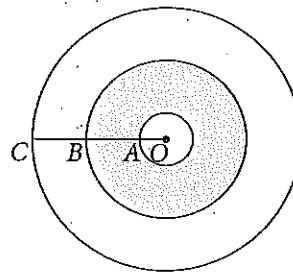
13. If an arc with a length of 12π is $\frac{3}{4}$ of the circumference of a circle, what is the shortest distance between the endpoints of the arc?

(A) 4
(B) $4\sqrt{2}$
(C) 8
(D) $8\sqrt{2}$
(E) 16



14. The total area of the four equal circles in the figure above is 36π , and the circles are all tangent to one another. What is the diameter of the small circle?

(A) $6\sqrt{2}$
(B) $6 + \sqrt{2}$
(C) $3\sqrt{2} - 3$
(D) $6\sqrt{2} - 6$
(E) $6\sqrt{2} + 6$



15. The diagram above shows three circles, all of which share a common origin O . If the lengths of \overline{AB} and \overline{BC} are both equal to the diameter of the smallest circle, what is the probability that a randomly selected point within the diagram will fall within the shaded region?

(A) $\frac{8}{25}$
(B) $\frac{9}{25}$
(C) $\frac{1}{9}$
(D) $\frac{5}{8}$
(E) $\frac{8}{9}$