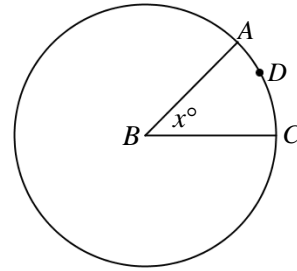


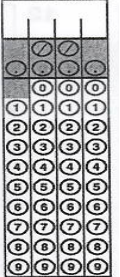
UB SAT 2009
Worksheet #23a
Circles

- If the area of a circle is 64π , then the circumference of the circle is
 - 8π
 - 16π
 - 32π
 - 64π
 - 128π

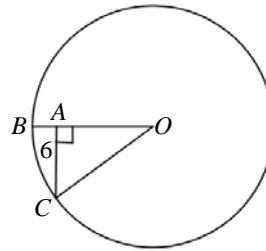


Note: Figure not drawn to scale.

- 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 ?

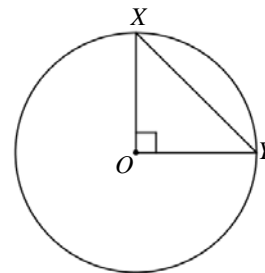


- If the minute hand of a clock moves 45 degrees, how many minutes of time have passed?
 - 6
 - 7.5
 - 15
 - 30
 - 36.5

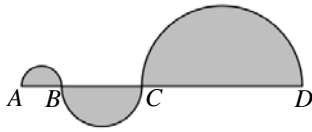


- In the figure above, if the area of the circle with center O is 100π and CA has a length of 6, what is the length of AB ?
 - 2
 - 3
 - 4
 - 5
 - 6

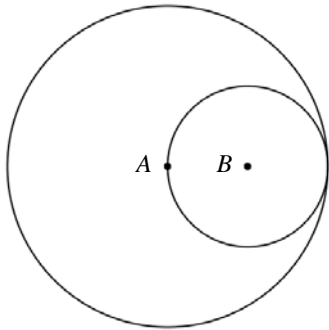
- If the circumference of a circle is 1, what is the radius of the circle?
 - $\frac{1}{2\pi}$
 - $\frac{1}{\pi}$
 - $\frac{1}{2}$
 - $\frac{\pi}{2}$
 - π



- 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?
 - 25π
 - $25\pi\sqrt{2}$
 - 50π
 - $50\pi\sqrt{3}$
 - 625π

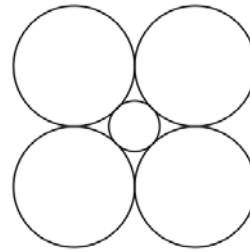


7. Each of the 3 shaded regions above is a semicircle. If $AB = 4$, $CD = 2BC$, and $BC = 2AB$, then the area of the entire shaded figure is
- (A) 28π
 (B) 42π
 (C) 84π
 (D) 96π
 (E) 168π



8. 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
9. 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%

10. 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



11. 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) $6\sqrt{2} + 6$

UB SAT 2009
Worksheet #23a
Circles
Answers

1. B

2. B

3. A

4. 45

5. A

6. C

7. B

8. A

9. D

10. D

11. D