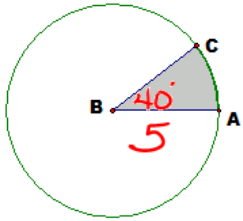


9.1 & 9.2 Mixed Practice

Directions: Provide exact answers, not estimates. Simply/reduce any square roots or fractions. Leave answers in terms of pi. Each exercise is worth 2 points. This classwork is due before you leave class today.

<p>1. Simplify $\sqrt{124} + \sqrt{243} - 5\sqrt{3}$</p> $\sqrt{4\sqrt{31}} \quad \sqrt{3\sqrt{81}}$ $2\sqrt{31} + 9\sqrt{3} - 5\sqrt{3}$ $2\sqrt{31} + 4\sqrt{3}$	<p>2. Simplify $\frac{3}{\sqrt{2}} \frac{\sqrt{2}}{\sqrt{2}} = \frac{3\sqrt{2}}{2}$</p>
<p>3. Solve $x^2 = 144$.</p> $x = \pm 12$	<p>4. Solve $x^2 + 8x = 0$</p> $x(x+8) = 0$ $\downarrow \quad \quad \quad \downarrow$ $x = 0 \text{ or } x = -8$
<p>5. Solve $x^2 - 5x = 66$</p> $x^2 - 5x - 66 = 0$ $(x - 11)(x + 6) = 0$ <p>If $x - 11 = 0$ & $x + 6 = 0$</p> <p>then $x = 11$ & $x = -6$</p>	<p>6. Solve $8x^2 + 3x - 10 = 7x^2 - 20x + 40$</p> $-7x^2 + 20x - 40 = -7x^2 + 20x - 40$ $x^2 + 23x - 50 = 0$ $(x - 25)(x + 2) = 0$ <p>If $x - 25 = 0$ & $x + 2 = 0$</p> <p>then $x = 25$ & $x = -2$</p>

For exercises 7 – 11, you are given the following diagram, $m\angle B = 40^\circ$, and $AB = 5$



$$\text{central } \angle = \text{arc} \therefore \widehat{AC} = 40^\circ$$

7. Find the circumference of Circle B.

$$C = \pi d$$

$$\boxed{C = 10\pi}$$

8. Find the area of circle B.

$$A = r^2 \pi$$

$$\boxed{A = 25\pi}$$

9. Find the $m\widehat{AC}$.

$$40^\circ$$

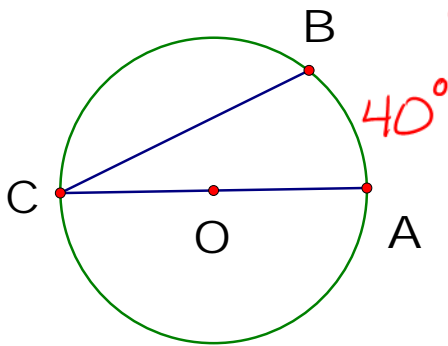
10. Find the length of \widehat{AC} .

$$\frac{40}{360} \cdot 10\pi \quad \text{or} \quad \frac{1}{9} 10\pi \quad \text{or} \quad \boxed{\frac{10\pi}{9}}$$

11. Find the area of the shaded region (sector ABC).

$$\frac{40}{360} \cdot 25\pi \Rightarrow \frac{1}{9} 25\pi \Rightarrow \boxed{\frac{25\pi}{9}}$$

12. In Circle O, $m\widehat{AB} = 40$. Find $m\widehat{BC}$ and $m\angle BCA$.



$$\text{inscribed } \angle = \frac{\text{arc}}{2}$$

$$\therefore \boxed{\angle BCA = 20^\circ}$$

$$\overline{CA} \text{ is diameter} \Rightarrow \widehat{CBA} = 180^\circ$$

$$\widehat{CBA} = \widehat{CB} + \widehat{BA}$$

$$180 = \widehat{CB} + 40^\circ$$

$$\boxed{140^\circ = \widehat{CB}}$$