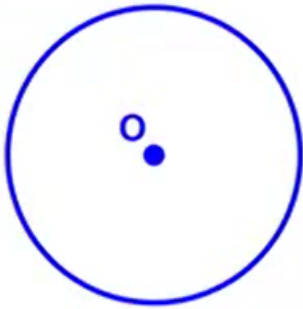




1. Given that the circumference of the circle below is 37.68cm, what is the circle's area?



$$\textcircled{1} C = \pi d$$

$$\frac{37.68}{\pi} = \frac{\cancel{\pi} d}{\cancel{\pi}}$$

$$12\text{cm} = d$$

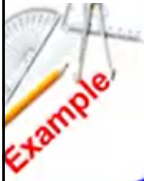
$$\textcircled{2} r = \frac{d}{2} = \frac{12}{2} \quad r = 6\text{cm}$$

$$\textcircled{3} A = \pi r^2$$

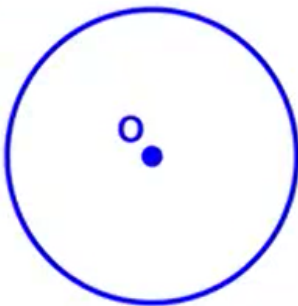
$$A = \pi 6^2$$

$$A = 36\pi$$

$$\boxed{A \approx 113.04\text{cm}^2}$$



2. Given that the area of the circle below is 28.26cm², what is the circle's circumference?



$$\textcircled{1} A = \pi r^2$$

$$\frac{28.26}{\pi} = \frac{\cancel{\pi} r^2}{\cancel{\pi}}$$

$$9 = r^2$$

$$\sqrt{9} = \sqrt{r^2}$$

$$3\text{cm} = r$$

$$\textcircled{2} C = 2\pi r$$

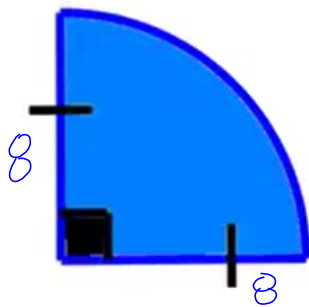
$$C = 2\pi(3)$$

$$C = 6\pi$$

$$\boxed{C \approx 18.84\text{cm}}$$



3. Given that the area of the shape below is 50.24cm^2 , what is the shape's perimeter?



$$\textcircled{1} \frac{\angle}{360^\circ} = \frac{S}{A}$$

$$\textcircled{3} C = 2\pi r$$

$$C = 2\pi(8)$$

$$C = 16\pi$$

$$C = 50.24$$

$$\frac{90^\circ}{360^\circ} = \frac{50.24}{A}$$

$$\textcircled{2} A = \pi r^2$$

$$\frac{200.96}{\pi} = \frac{\pi r^2}{\pi}$$

$$\sqrt{64} = r$$

$$8 = r$$

$$\frac{18086.4}{90} = \frac{90A}{90}$$

$$200.96\text{cm}^2 = A$$

$$\textcircled{4} \frac{\angle}{360^\circ} = \frac{\text{arc}}{C}$$

$$\frac{90^\circ}{360^\circ} = \frac{\text{arc}}{50.24}$$

$$\textcircled{5} 8 + 8 + 12.56$$

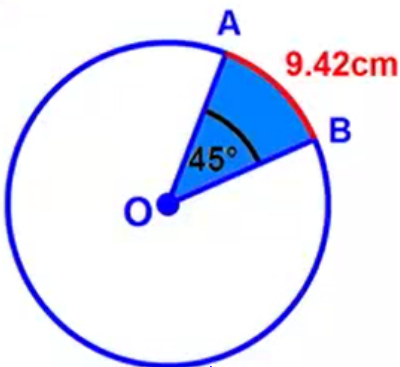
$$P = 28.56\text{cm}$$

$$\frac{4521.6}{360} = \frac{360 \text{ arc}}{360}$$

$$12.56\text{cm} = \text{arc}$$



4. Given that $m\widehat{AB} = 9.42\text{cm}$, calculate the area of the circular sector AOB.



$$\textcircled{1} \frac{\angle}{360^\circ} = \frac{\text{arc}}{C}$$

$$\textcircled{3} A = \pi r^2$$

$$A = \pi R^2$$

$$A = \pi 144$$

$$A = 452.16\text{cm}^2$$

$$\frac{45^\circ}{360^\circ} = \frac{9.42}{C}$$

$$\frac{3391.2}{45} = \frac{45c}{45}$$

$$75.36\text{cm} = c$$

$$\textcircled{4} \frac{\angle}{360^\circ} = \frac{S}{A}$$

$$\frac{45^\circ}{360^\circ} = \frac{S}{452.16}$$

$$\textcircled{2} C = \pi d$$

$$\frac{75.36}{\pi} = \frac{\pi d}{\pi}$$

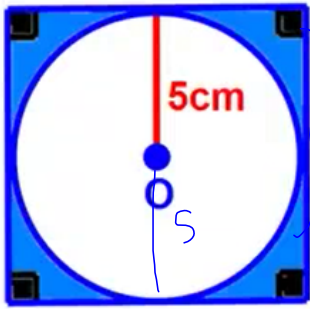
$$24 = d$$

$$r = \frac{d}{2} = \frac{24}{2} = 12\text{cm}$$

$$\frac{20347.2}{360} = \frac{360S}{360}$$

$$56.52\text{cm}^2 = S$$

5. Calculate the area of the blue region in the shape below.



$$A_{\square} - A_{\circ}$$

$$\textcircled{1} A_{\square} = s^2$$

$$= 10^2$$

$$A_{\square} = 100 \text{ cm}^2$$

$\textcircled{3}$

$$100 - 78.5$$

$$= 21.5 \text{ cm}^2$$

$$\textcircled{2} A_{\circ} = \pi r^2$$

$$= \pi 5^2$$

$$= 25\pi$$

$$\approx 78.5 \text{ cm}^2$$

C

$\textcircled{1}$ Find C when given d

$$C = \pi d$$

$\textcircled{2}$ Find C when given r

$$C = 2\pi r$$

$\textcircled{3}$ Find d or r when given C

$$d = \frac{C}{\pi}$$

$$\frac{C}{\pi} = d$$

Circle WP Examples Revised

Arc

$$\text{Rule: } \frac{\angle}{360^\circ} = \frac{\text{arc}}{c}$$

- ① Find \angle
- ② Find arc
- ③ Find c

Area

① Find A when given r $A = \pi r^2$

② " " " d

③ Find r or d when given A

$$\begin{aligned} A &= \pi r^2 \\ \frac{A}{\pi} &= r^2 \\ \sqrt{\frac{A}{\pi}} &= r \end{aligned}$$