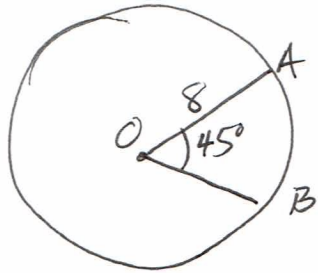


Example 1:



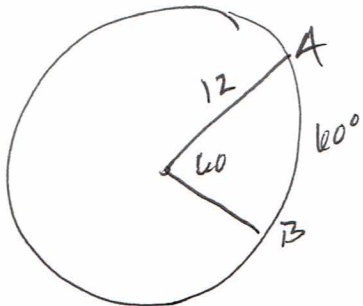
$$\textcircled{1} \text{ Circumference} = 2\pi(8) = 16\pi$$

$$\textcircled{2} \widehat{AB} \text{ length: } \frac{45}{360} = \frac{x}{16\pi}$$

$$360x = 45 \cdot 16\pi$$

$$x = \frac{45 \cdot 16\pi}{360} = \boxed{2\pi}$$

Example 2:



$$\text{circumference} = 2\pi(12) = 24\pi$$

$$\text{length } \widehat{AB} : \frac{60}{360} = \frac{x}{24\pi} = \boxed{4\pi}$$

Example 3 (1):

$$r = 35 \text{ cm}$$

$$\text{Circumference} = 2\pi(35) = 70\pi$$

$$\text{Distance} = 1000 \cdot 70\pi = 70,000\pi \text{ cm} = \underline{\underline{700\pi \text{ meters}}}$$

Example 3 (2):

$$\text{Circumference} = 70\pi_{\text{cm}} = .7\pi \text{ m}$$

$$\frac{15 \text{ m}}{0.7\pi} = X \cdot \frac{0.7\pi \text{ m}}{0.7\pi}$$

of revolutions

$$6.82 = X$$

↓
revolutions

Example 4:

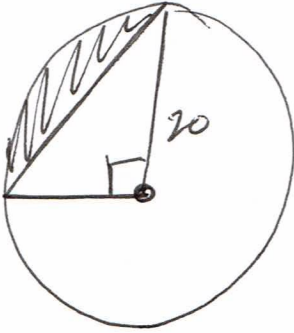


$$\frac{60}{360} = \frac{X}{\pi(9)^2}$$

$$\frac{1}{6} = \frac{X}{81\pi}$$

$$6X = 81\pi$$
$$X = \frac{81\pi}{6} = \boxed{\frac{27\pi}{2}} \approx 42.4$$

Example 5:



$$A_{\text{segment}} = A_{\text{sector}} - A_{\Delta}$$

$$A_{\text{sector}} = \frac{90}{360} = \frac{x}{\pi(20)^2}$$

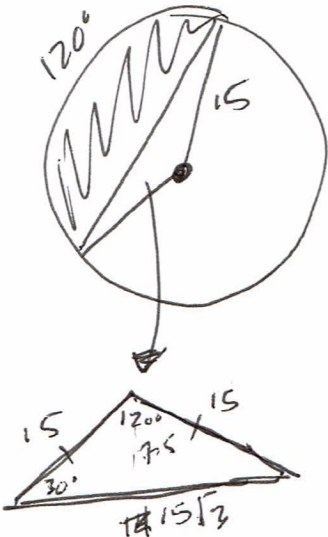
$$\frac{1}{4} = \frac{x}{400\pi}$$

$$x = 100\pi$$

$$A_{\Delta} = \frac{1}{2}(20)(20) = 200$$

$$A_{\text{segment}} = 100\pi - 200 \approx \boxed{114.159}$$

Example 6:



$$A_{\text{sector}} = \frac{120}{360} = \frac{x}{\pi(15)^2}$$

$$\frac{1}{3} = \frac{x}{225\pi}$$

$$x = 75\pi$$

$$A_{\Delta} = \frac{1}{2}(15)(15) \sin 120^\circ \approx 97.427$$

$$A_{\text{segment}} = 75\pi - 97.427 \approx \boxed{138.192}$$