

Chpt. 7

Trig Preview

- 1) Find the circumference and area of a circle with a radius of 7 cm.

$$C = 2\pi(7) = 14\pi = 43.982 \text{ cm}$$

$$A = \pi(7)^2 = 49\pi \text{ cm}^2 = 153.938 \text{ cm}^2$$

- 2) Find the area of a semi-circle with a diameter of 20 inches.

$$A = \frac{180}{360} \cdot \pi(10)^2$$

$$A = \frac{1}{2}(100)\pi = 50\pi \text{ in}^2$$

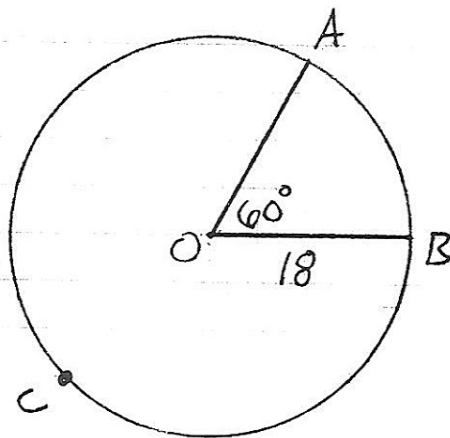
$$A = 157.080 \text{ in}^2$$

- 3) Find the arc length of a semi-circle with a radius of 15 feet.

$$C = \frac{180}{360} \cdot 2\pi(15)$$

$$C = 15\pi = 47.124 \text{ ft}$$

4)



- a) Find the area of sector AOB

$$A = \frac{60}{360} \cdot \pi(18)^2$$

$$A = \frac{1}{6} \cdot \pi(324) = 54\pi \text{ u}^2 = 169.646 \text{ u}^2$$

- b) Find the arc length of \widehat{AB}

$$\widehat{AB} = \frac{60}{360} \cdot 2\pi(18)$$

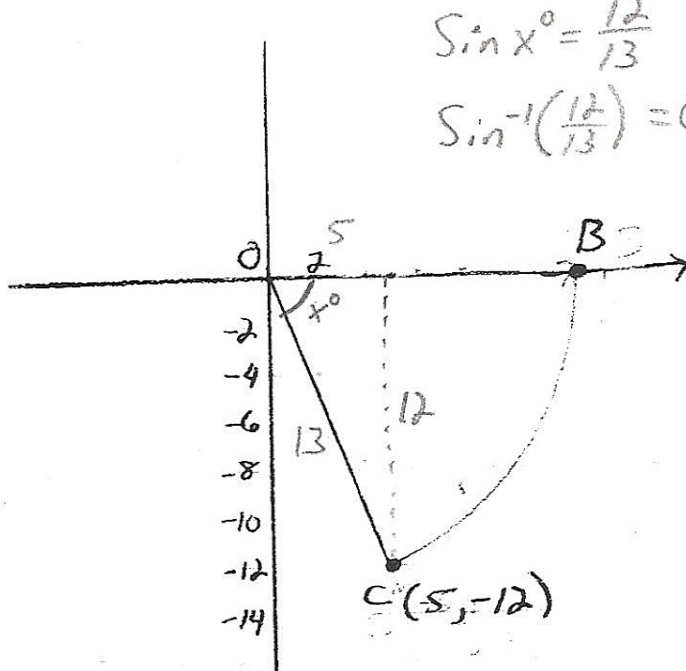
$$\widehat{AB} = \frac{1}{6} \cdot 36\pi = 6\pi \text{ units} = 18.850$$

- c) Find the area of the sector bound by arc \widehat{ACB}

$$A = \frac{300}{360} \cdot \pi(18)^2$$

$$A = \frac{5}{6} \cdot \pi(324) = 270\pi = 848.230 \text{ u}^2$$

5



$$\sin x^\circ = \frac{12}{13}$$

$$\sin^{-1}\left(\frac{12}{13}\right) = 67.380$$

a) What is the coordinate of B?
(13, 0)

b) Find the $m\widehat{BC}$
 67.380°

c) Find $m\angle BOC$
 67.380°

d) Find the Area of sector BOC.

$$A = \frac{67.380}{360} \cdot \pi (13)^2$$

$$A = 31.631\pi = 99.372 \text{ units}^2$$

e) Find the arc length of \widehat{BC} .

$$\widehat{BC} = \frac{67.380}{360} \cdot 2\pi(13)$$

$$\widehat{BC} = 4.866\pi = 15.288 \text{ units}$$

6) The diameter of a bike wheel is 26 inches. How far will the bike travel if the wheels make 2000 revolutions?

$$C = 2\pi(13)$$

$$C = 26\pi \text{ inches}$$

$$d = C \cdot R$$

$$d = 26\pi(2000)$$

$$d = 52000\pi = 163,362.818 \text{ inches}$$

2,578 miles

7) Find the circumference of a circle with area 49π .

$$\pi r^2 = 49\pi$$

$$r^2 = 49$$

$$r = 7$$

$$C = 2\pi(7)$$

$$C = 14\pi = 43.982 \text{ units}$$