

Geo Practice #18

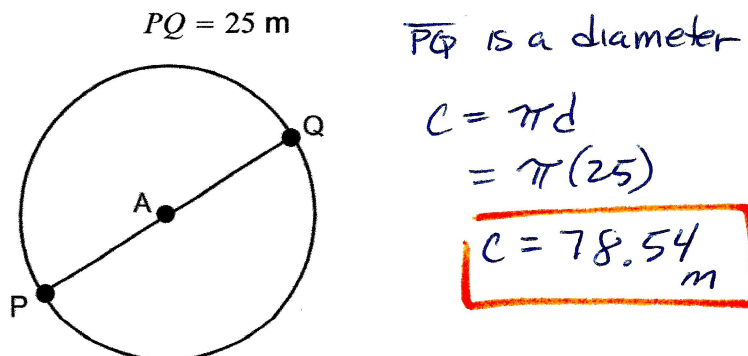
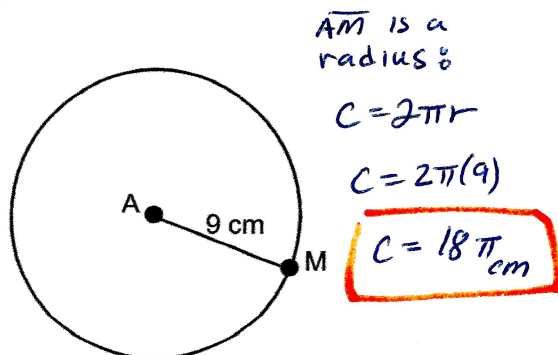
Sec 10-6 Circumference and Arc Length

Monday, April 20, 2020

1. Find the circumference of each circle. Give the answer in the form stated for each problem. A is the center of all circles.

a) Leave answer in terms of π .

b) Give answer to the nearest hundredth.



2. The circumference of a circle is 500 in. Find the diameter to the nearest hundredth.

$$C = \pi d$$

$$\frac{500}{\pi} = \frac{\pi d}{\pi}$$

$$d = \frac{500}{\pi} = 159.15 \text{ in}$$

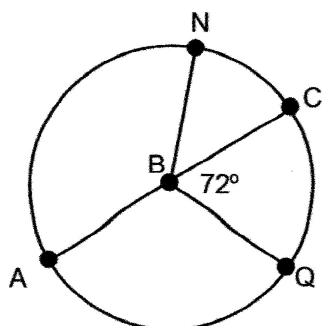
3. The circumference of a circle is 96π ft. Find the radius of the circle.

$$C = 2\pi r$$

$$\frac{96\pi}{2\pi} = \frac{2\pi r}{2\pi}$$

$$r = \frac{96\pi}{2\pi} = 48 \text{ ft}$$

4. Find the indicated arc length to the nearest hundredth in circle B. AC is a diameter. AC = 10 cm



1st find circumference: $C = \pi d = 10\pi$

a) length of $\widehat{ANQ} =$
 $m \widehat{ANQ} = 180^\circ + 72^\circ = 252^\circ$
 $\frac{252^\circ}{360^\circ} = \frac{x}{10\pi}$

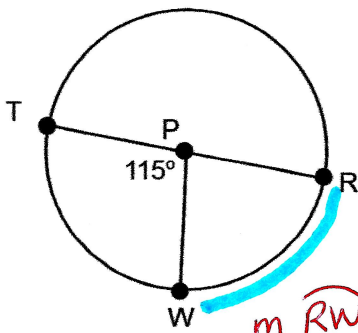
Length $\widehat{ANQ} = 21.99 \text{ cm}$

b) length of $\widehat{AQ} =$
 $m \widehat{AQ} = 180^\circ - 72^\circ = 108^\circ$

$$\frac{108^\circ}{360^\circ} = \frac{x}{10\pi}$$

Length $\widehat{AQ} = 9.42 \text{ cm}$

5. Find the indicated arc length to the nearest hundredth in circle P. \overline{TR} is a diameter. $PW = 5$ cm.



length of $\widehat{RW} =$

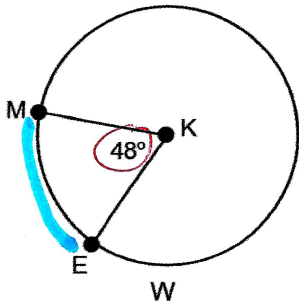
$$m\widehat{RW} = 180^\circ - 115^\circ = 65^\circ$$

$$\frac{65^\circ}{360^\circ} = \frac{x}{10\pi}$$

$$x = 5.67 \text{ cm}$$

radius
 $C = 2\pi r$
 $= 2\pi(5)$
 $= 10\pi$

6. Find the radius of circle K if the length of $\widehat{EM} = 100$ in. Round to the nearest tenth.



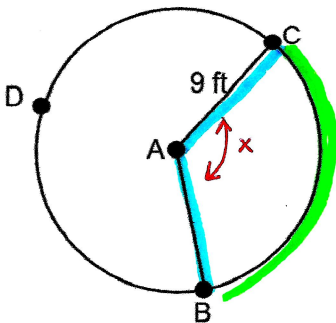
Radius =

$$\frac{48^\circ}{360^\circ} = \frac{100}{\text{Circumf}}$$

$$\text{circumf} = 750 \rightarrow \frac{750}{2\pi} = \frac{2\pi r}{2\pi}$$

$$r = 119.4 \text{ in}$$

7. Find the measure of $\angle CAB$ if the measure of $\widehat{CB} = 20$ ft. Round to the nearest tenth of a degree.



$$m\angle CAB = 127.3^\circ$$

$$\frac{x}{360^\circ} = \frac{20 \text{ ft}}{18\pi}$$

$\overline{AC} = \text{radius}$
 $C = 2\pi(r) = 18\pi$