

Warm-up:

1) Write the equation for a circle with center (3, 2) and radius 15.

$$(x-3)^2 + (y-2)^2 = 225$$

2) What is the center and radius for the equation

$$(x + 3)^2 + (2 + y)^2 = 15?$$

3) What are your Math III 4th quarter goals? How will you achieve these goals?

ACT/SAT Practice:

9) If $A = p + prt$, then $p =$

$$\frac{A}{P} = \frac{p + prt}{P}$$

$$\frac{A}{P} = \frac{1 + rt}{1} p$$

$$\frac{A}{1 + rt} = \frac{p(1 + rt)}{1 + rt}$$

$$p = \frac{A}{1 + rt}$$

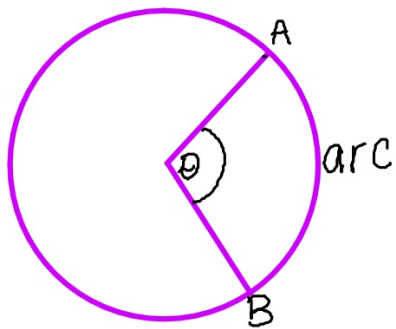
Unit 4 ~ Circles & ~~Parabolas~~

Objective: G.C.2

Day 1 - Angles of a Circle

Central Angles: Vertex is on the center.

Vertex- where two lines meet.

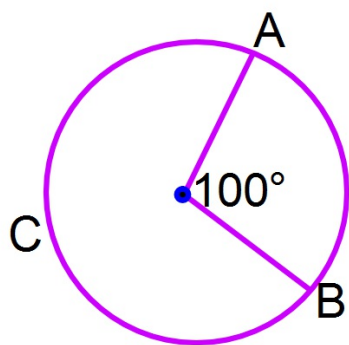


$$\text{angle}(\theta) = \text{arc}$$

major arc - big arc
minor arc - small arc

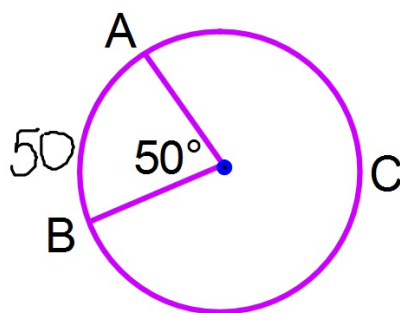
Examples:
angle = arc

1) Find $m\widehat{AB}$



$$\widehat{AB} = 100$$

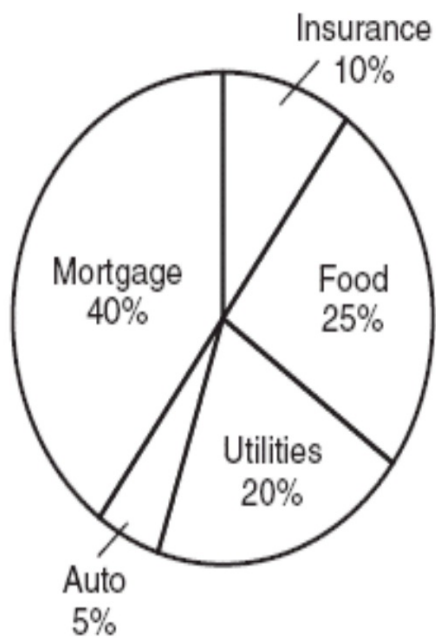
2) Find $m\widehat{ACB}$



$$\widehat{AB} = 50$$

$$\begin{aligned}\widehat{ACB} &= 360 - 50 \\ &= 310\end{aligned}$$

The accompanying circle graph shows how the Marino family spends its income each month.



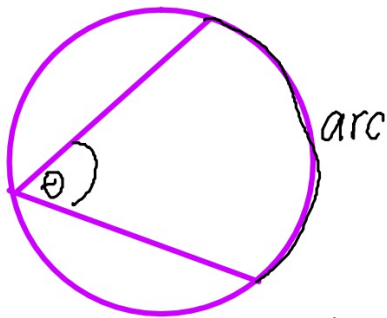
Central angle ?
(Food)

$$\frac{\text{part}}{\text{whole}} = \frac{\%}{100}$$

$$\begin{array}{r} x \\ \hline 360 \end{array} = \frac{25}{100}$$
$$\frac{100x}{100} = \frac{9000}{100}$$
$$x = 90$$

What is the measure, in degrees, of the central angle that represents the percentage of income spent on food?

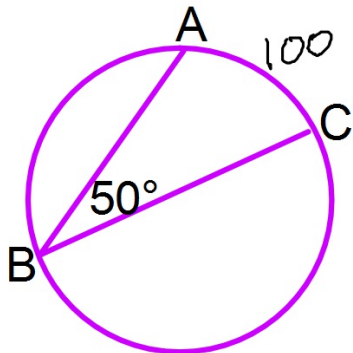
Inscribed Angles: vertex is on the circle.



$$\text{angle} = \frac{1}{2} \text{ arc}$$

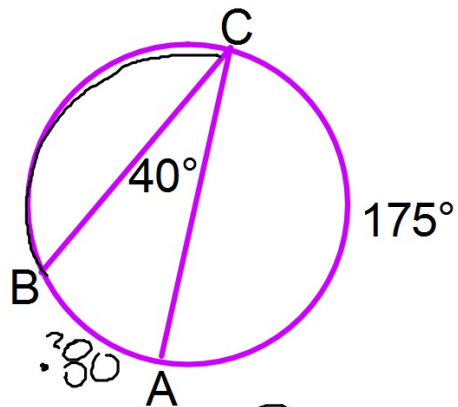
Examples:
angle = $\frac{1}{2}$ arc

1) Find $m\widehat{AC}$



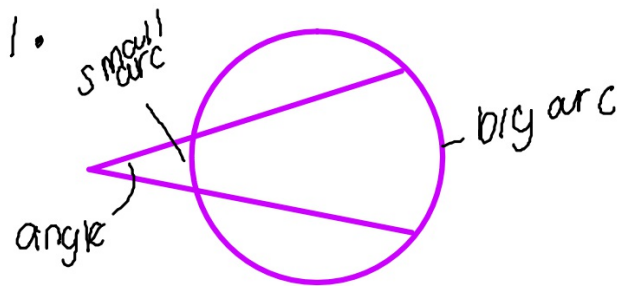
$$2(50) = \left(\frac{1}{2} \widehat{AC}\right) 2$$
$$\widehat{AC} = 100$$

2) Find $m\widehat{BC}$

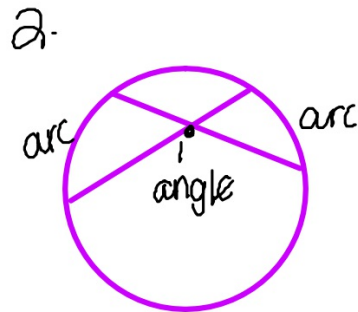


$$2(40) = \left(\frac{1}{2} \widehat{AB}\right) 2$$
$$\widehat{AB} = 80$$
$$360 - (175 + 80)$$
$$360 - 175 - 80 = 105$$
$$m\widehat{BC} = 105$$

Secants: Line that touches the circle at two places.



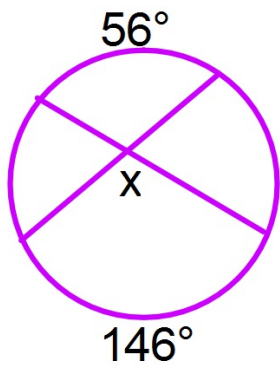
$$\text{angle} = \frac{1}{2}(\text{big arc} - \text{small arc})$$



$$\text{angle} = \frac{1}{2}(\text{arc} + \text{arc})$$

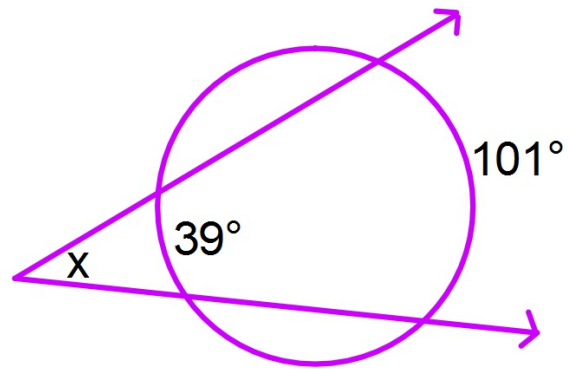
Examples:

1) Find x.



$$\begin{aligned} \text{angle} &= \frac{1}{2}(\text{arc} + \text{arc}) \\ x &= \frac{1}{2}(56 + 146) \\ x &= 101 \end{aligned}$$

2) Find x.



$$\begin{aligned} \text{angle} &= \frac{1}{2}(\text{big arc} - \text{small arc}) \\ x &= \frac{1}{2}(101 - 39) \\ x &= 31 \end{aligned}$$