

Warm Up

Solve for x .

1. $2x = 84 + 32$

$$2x = 116 \quad x = 58$$

2. $x = \frac{1}{2}(360 - 120)$

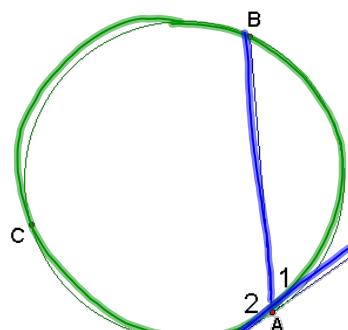
$$x = 180 - 60 \quad x = 120$$

3. $180 - x = \frac{1}{2}(2x + 4 + 28)$

$$\begin{aligned} 180 - x &= x + 2 + 14 \\ 180 &= 2x + 16 \end{aligned}$$

$$\begin{aligned} 2x &= 164 \\ x &= 82 \end{aligned}$$

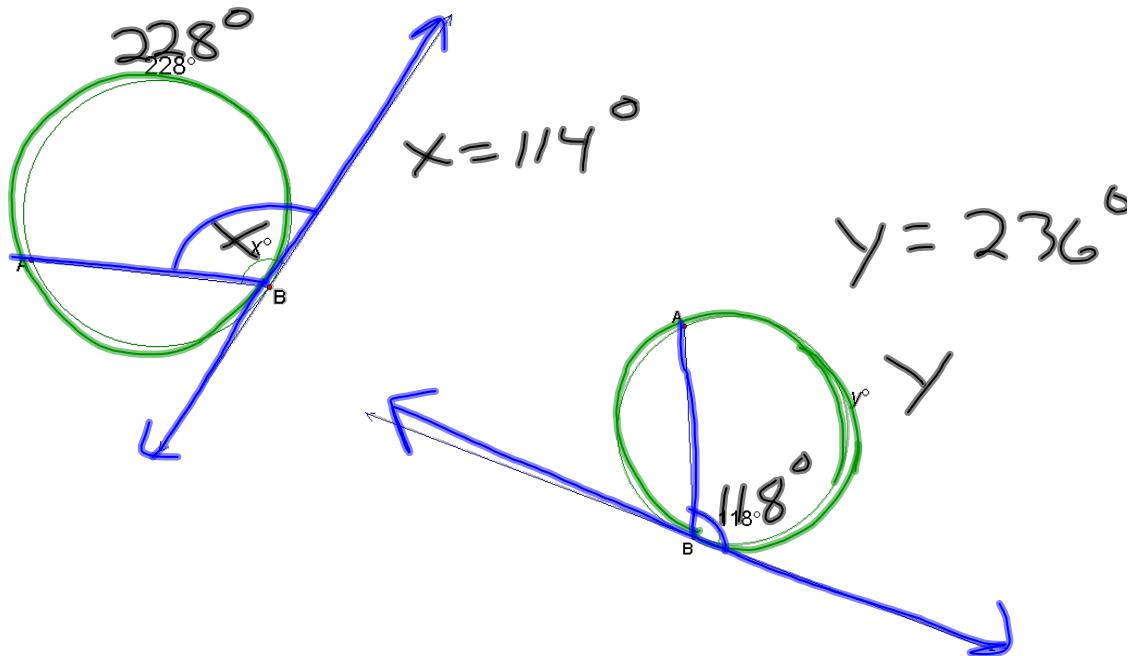
10-5 Other Angle Relationships



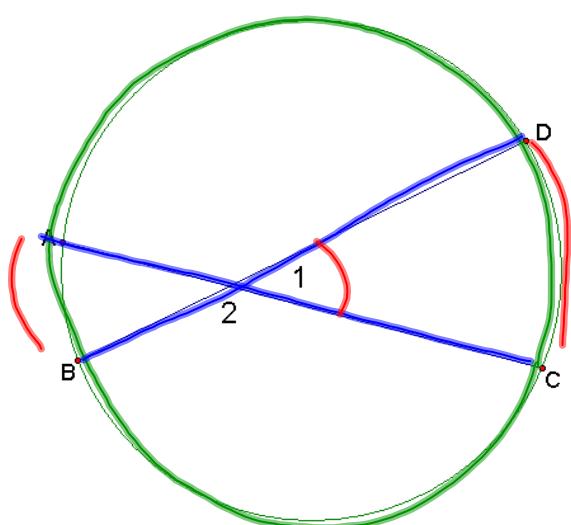
$$m\angle 1 = \frac{1}{2} m\widehat{AB}$$

$$m\angle 2 = \frac{1}{2} m\widehat{BCA}$$

Ex 1 Find x and y



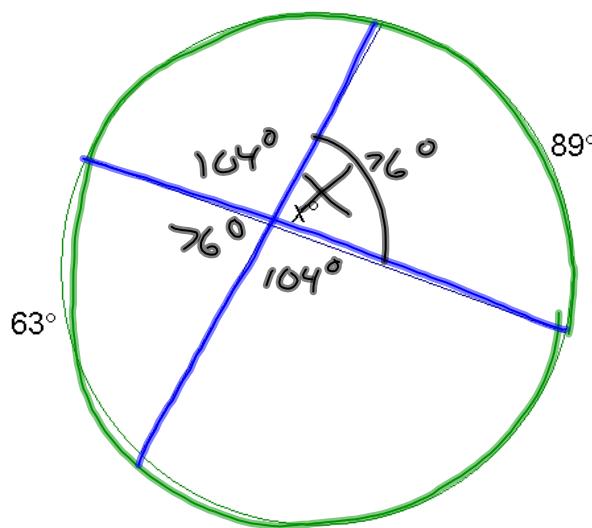
Angles Inside the Circle



$$m\angle 1 = \frac{1}{2} (m\widehat{DC} + m\widehat{AB})$$

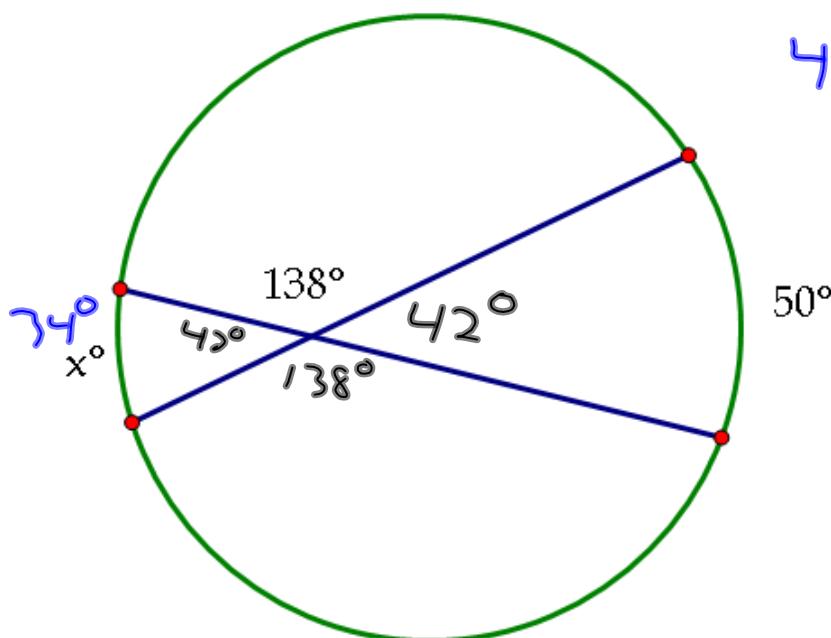
$$m\angle 2 = \frac{1}{2} (m\widehat{AD} + m\widehat{BC})$$

Ex 2 Find the value of x .



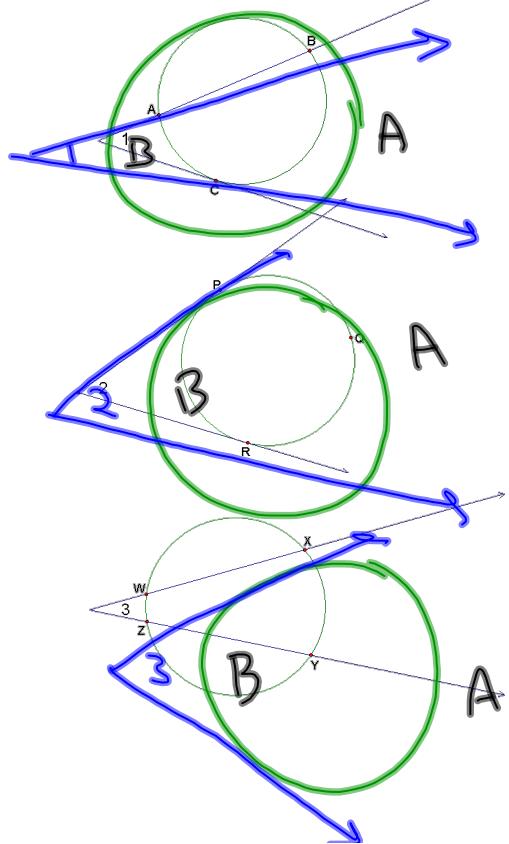
$$\begin{aligned} & 89 + 63 \\ & \hline & 2 \\ & x = 76^\circ \end{aligned}$$

Ex 3 Find the value of x .



$$\begin{aligned} 42 &= \frac{50+x}{2} \\ 84 &= 50+x \\ 34 &= x \end{aligned}$$

Angles Outside the Circle

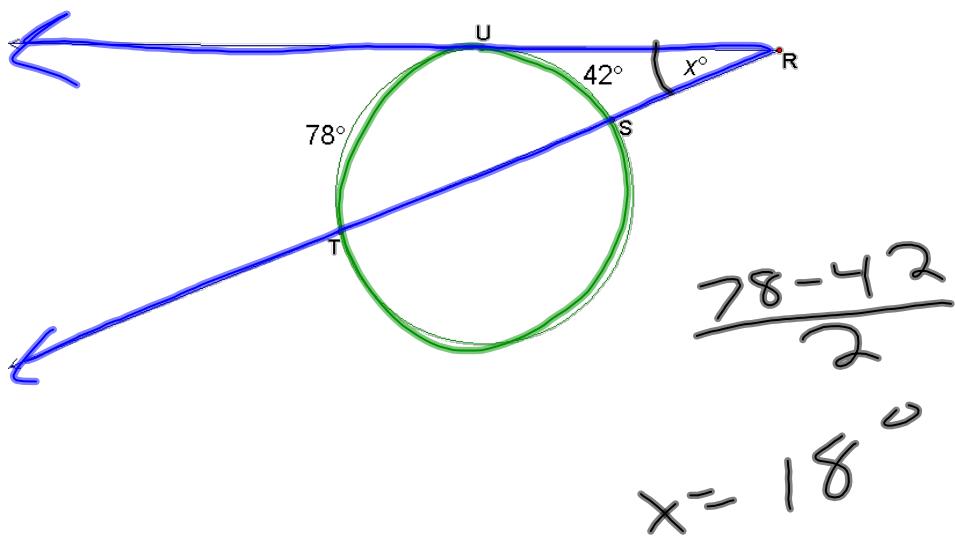


$$m\angle 1 = \frac{1}{2}(A - B)$$

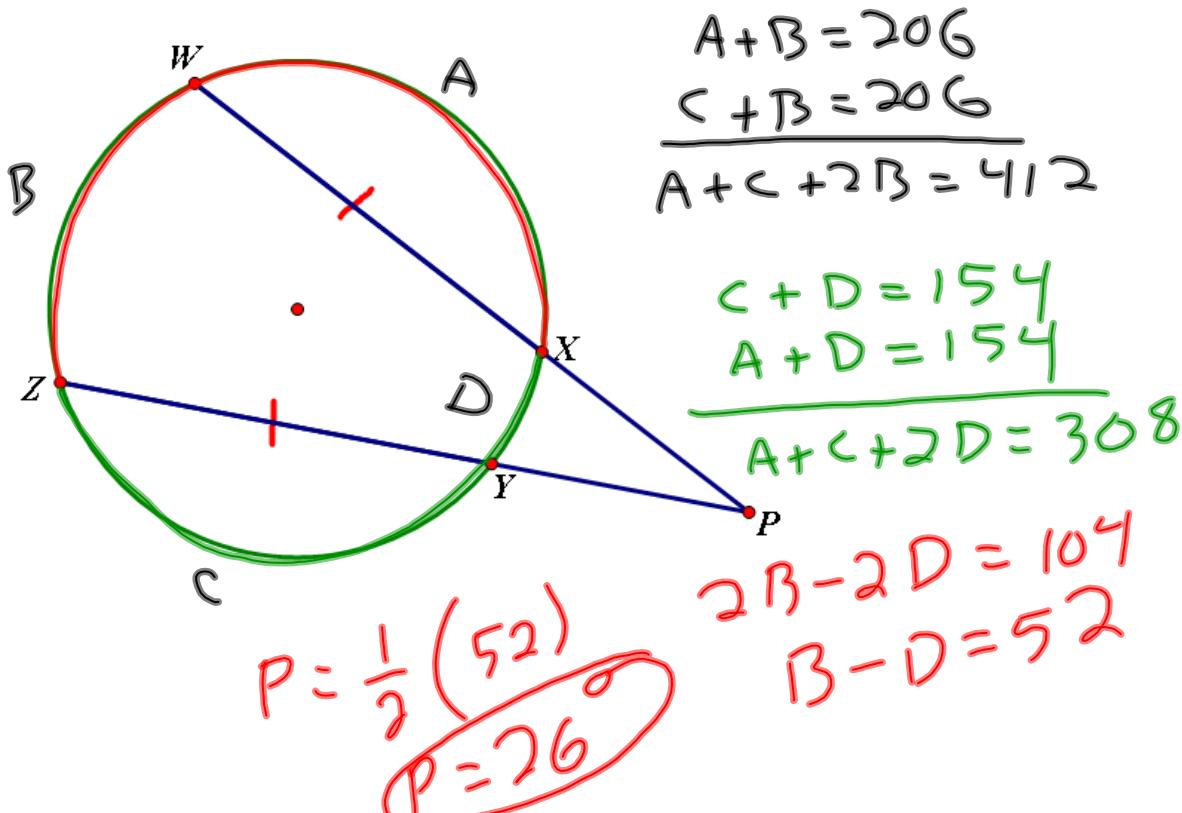
$$m\angle 2 = \frac{1}{2}(A - B)$$

$$m\angle 3 = \frac{1}{2}(A - B)$$

Ex 4 Find the value of x .



Ex 5 Find the measure of angle P if the measure of the arc of XWZ is 206° .



Ex 6 In the diagram, the circle is inscribed in the triangle. Find the measure of each minor arc of the circle.

