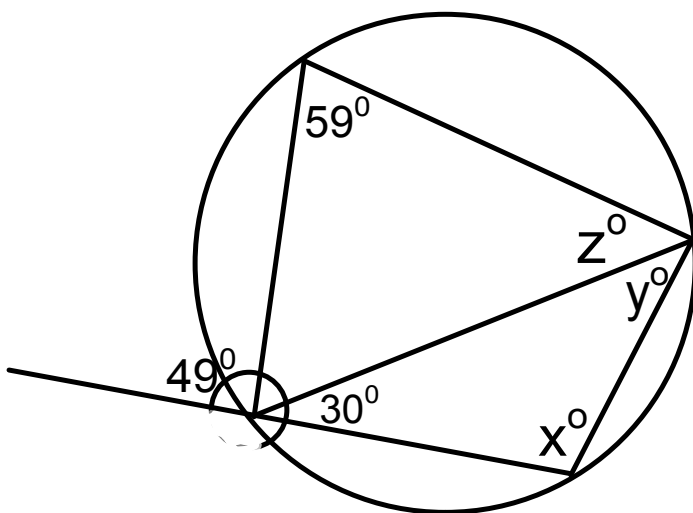


1. Given the following diagram solve for the missing angle measurements.

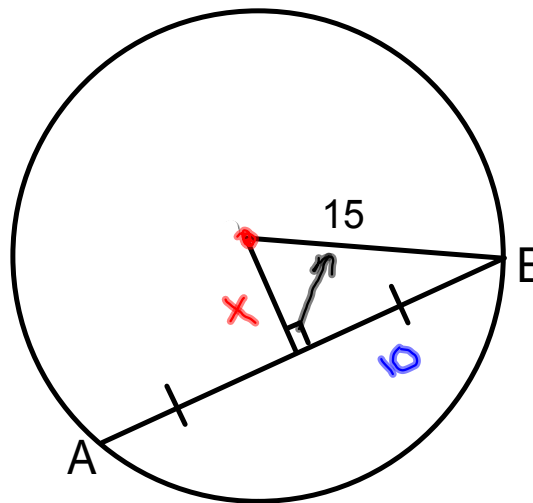


$$x^\circ = \underline{180 - 59} = 121^\circ$$

$$y^\circ = \underline{180 - 121 - 30} = 29^\circ$$

$$z^\circ = \underline{180 - 101 - 59} = 20^\circ$$

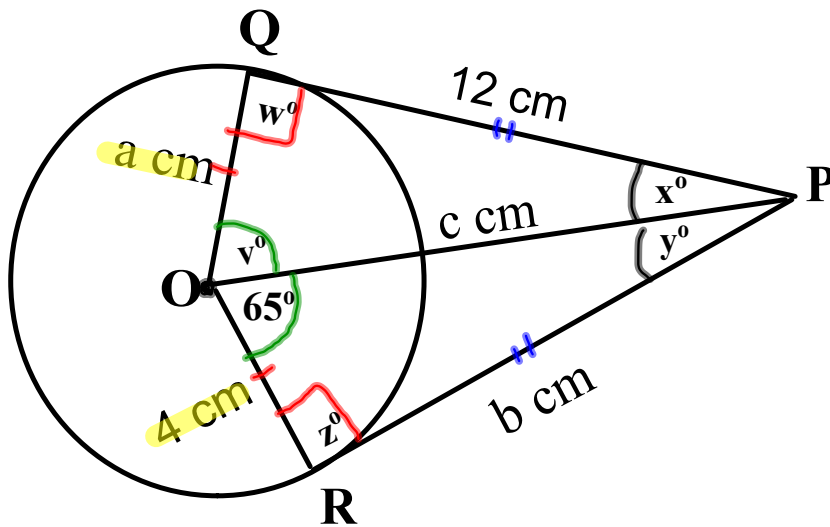
2. Find the distance from the center of the circle to the chord if the radius is 15 cm and the length of the chord is 20 cm.



$$\begin{aligned}a^2 + b^2 &= c^2 \\(10)^2 + x^2 &= (15)^2 \\100 + x^2 &= 225 \\x^2 &= 125 \\x &= \sqrt{125} \\x &= 5\sqrt{5}\end{aligned}$$

The distance from the center of the circle to the chord is $5\sqrt{5}$ cm.
or 11.2

3. Find the missing angle and side measurements in the following diagram.



$$v^\circ = \underline{65^\circ}$$

$$w^\circ = \underline{90^\circ}$$

$$x^\circ = \underline{25^\circ}$$

$$y^\circ = \underline{25^\circ}$$

$$z^\circ = \underline{90^\circ}$$

$$a \text{ cm} = \underline{4}$$

$$b \text{ cm} = \underline{12 \text{ cm}}$$

$$c \text{ cm} = \underline{4\sqrt{10}}$$

$$\begin{aligned} a^2 + b^2 &= c^2 \\ (4)^2 + (12)^2 &= c^2 \\ 16 + 144 &= c^2 \\ 160 &= c^2 \\ \sqrt{160} &= c \\ 4\sqrt{10} &= c \end{aligned}$$