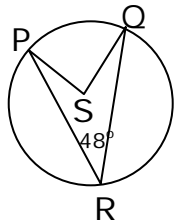


**Circles: Inscribed Angles, Arcs and Chords - Guided Lesson Explanation****Explanation#1**

There are  $\angle R$  is an inscribed angle,  $\angle S$  is a central angle and  $\overline{PQ}$  is the arc they both intercept



The inscribed angle theorem states that the measure of an inscribed angle is half the measure of the central angle that intercepts the same arc:

$$m\angle R = \frac{1}{2} \times m\angle S$$

This identity can be rewritten as  $2 \times m\angle R = m\angle S$

$\angle R$  is an inscribed angle that intercepts the same arc as the central angle  $\angle S$ , so use the inscribed angle theorem.

$$\begin{aligned} m\angle S &= 2 \times m\angle R \\ &= 2(48^\circ) \\ &= 96^\circ \end{aligned}$$

$m\angle S$  is  $96^\circ$

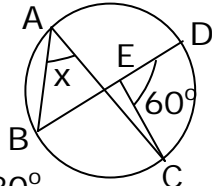


Name \_\_\_\_\_

Date \_\_\_\_\_

### Explanation#2

The center of the circle is O. BED is a diameter of the circle.



$$\angle BEC + 60^\circ = 180^\circ$$

$$\angle BEC = 120^\circ$$

$$2x = 120^\circ$$

$$x = \frac{1}{2} \times 120^\circ$$

$$x = 60^\circ$$

### Explanation#3

PQR is a major arc

$$\text{Measure of PQR} = 360^\circ - 125^\circ$$

The measure of an angle of major arc is the difference of  $360^\circ$  and the measure of the related minor arc.

Therefore, the measure of an angle of arc PQR is  $235^\circ$ .

