

**Angles in Inscribed Right Triangles and Quadrilaterals- Guided Lesson Explanation****Explanation#1**

Since PQRS is an inscribed quadrilateral,  $\angle Q$  and  $\angle S$  are supplementary. Write an equation setting the sum of their measures equal to  $180^\circ$ , and solve for  $m\angle S$ .

$$m\angle Q + m\angle S = 180^\circ$$

$$86^\circ + m\angle S = 180^\circ \quad \text{Plug in } m\angle Q = 86^\circ$$

$$m\angle S = 94^\circ \quad \text{subtract } 86^\circ \text{ from both sides}$$

So the answer is  $m\angle S = 94^\circ$

**Explanation#2**

Since AB is a diameter of the circle,  $\angle C$  is a right angle. So  $\triangle ABC$  is a right triangle and  $\angle A$  and  $\angle B$  are complementary. Write an equation setting the sum of their measures equal to  $90^\circ$ , and solve for  $m\angle B$ .

$$m\angle A + m\angle B = 90^\circ$$

$$70^\circ + m\angle B = 90^\circ \quad \text{Plug in } m\angle A = 70^\circ$$

$$m\angle B = 20^\circ \quad \text{subtract } 70^\circ \text{ from both sides}$$

So the answer is  $m\angle B = 20^\circ$

**Explanation#3**

Since UVWX is an inscribed quadrilateral,  $\angle X$  and  $\angle V$  are supplementary. Write an equation setting the sum of their measures equal to  $180^\circ$ , and solve for  $m\angle V$ .

$$m\angle X + m\angle V = 180^\circ$$

$$45^\circ + m\angle V = 180^\circ \quad \text{Plug in } m\angle X = 45^\circ$$

$$m\angle V = 135^\circ \quad \text{subtract } 45^\circ \text{ from both sides}$$

So the answer is  $m\angle V = 135^\circ$

