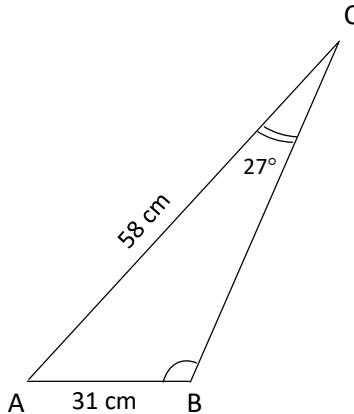


Sine Law and the Obtuse Angle - Supplemental Questions with Solutions

1. Given triangle ABC below, what is the measure of obtuse angle B to the nearest centimeter?



Sine law:

$$\frac{31}{\sin 27^\circ} = \frac{58}{\sin B}$$

$$\frac{58 \cdot \sin 27^\circ}{31} = \sin B$$

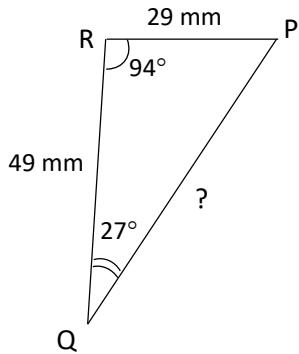
$$0.8494 = \sin B$$

$$\sin^{-1}(0.8494) = 58.15^\circ$$

But it's obtuse!

$$\therefore 180 - 58.15 = 121.85^\circ$$

2. Given triangle PQR below, find the missing side r to the nearest centimeter.



Sine law:

$$\frac{a}{\sin A} = \frac{b}{\sin B}$$

$$\frac{29}{\sin 27^\circ} = \frac{?}{\sin 94^\circ}$$

$$\frac{29 \cdot \sin 94^\circ}{\sin 27^\circ} = ?$$

$$63.72 \text{ mm} = ?$$