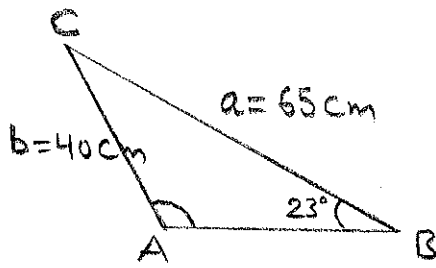


## Obtuse triangle trigonometry

Ex.

Determine  $\angle A$ .

Sol.

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

$$\Rightarrow \frac{\sin A}{65} = \frac{\sin 23^\circ}{40}$$

$$\Rightarrow \sin A = \frac{(\sin 23^\circ)(65)}{40}$$

$$\sin A = \frac{(0.39)(65)}{40}$$

$$\sin A = \frac{25.39}{40}$$

$$\sin A = 0.63$$

$$\sin^{-1}(\sin A) = \sin^{-1}(0.63)$$

$$\angle A = 39.41^\circ$$

$$\boxed{\angle A = 180^\circ - 39.41^\circ = 140.58^\circ}$$