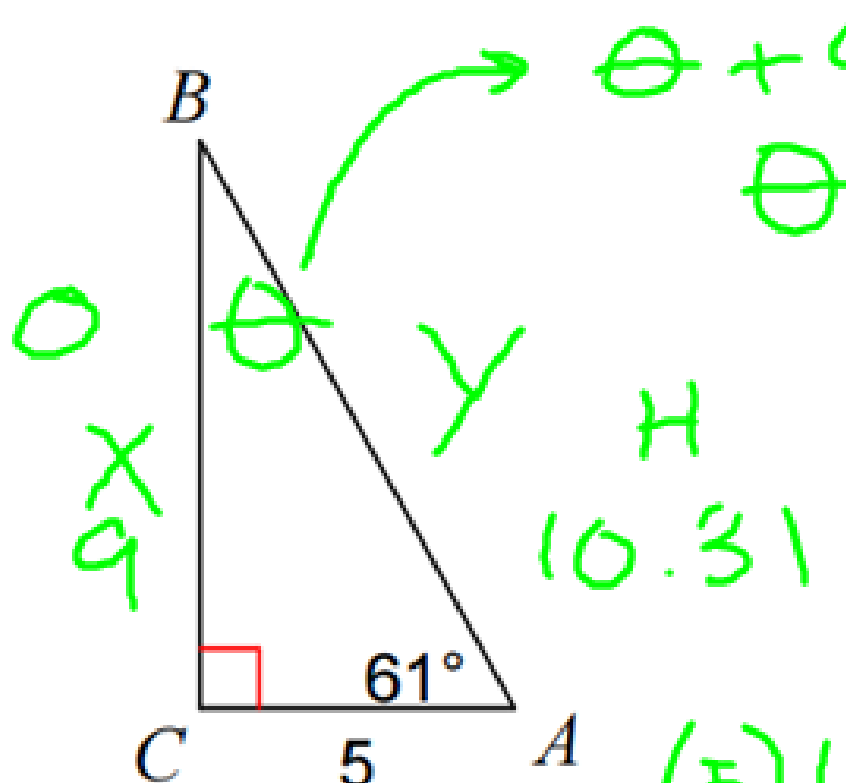


Find all missing sides and angles:



$$\theta + 90 + 61 = 180$$

$$\theta + 151 = 180$$

$$\theta = 180 - 151$$

$$\theta = 29$$

X = ?

$$(5) \cdot 1.80 = \frac{X}{5} \cdot 5$$

$$\tan \theta = \frac{O}{A}$$

$$\tan 61 = \frac{X}{5}$$

$$\boxed{9 = X}$$

$$\cos \theta = \frac{A}{H}$$

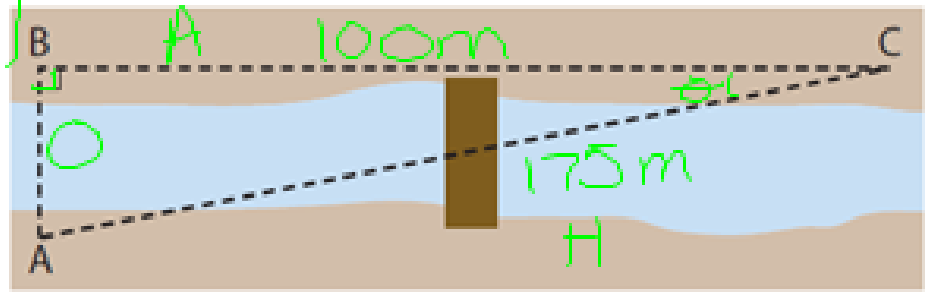
$$\cos 61 = \frac{5}{y}$$

$$y(0.4848) = \frac{5}{\cancel{y}} \cdot y$$

$$\frac{0.4848}{0.4848} y = \frac{5}{0.4848}$$

$$y = 10.31$$

Letha works as an outdoor education instructor. For an orienteering day, she places markers in the woods that participants must find using a map and compass. She puts marker B directly across the stream from marker A. She puts marker C 100 m from marker B on the same side of the stream. If marker C is 175 m from marker A, what is the measure of $\angle C$, to the nearest degree?



$$\cos \theta = \frac{A}{H}$$

$$\cos \theta = \frac{100}{175}$$

$$\cos^{-1}(\cos \theta) = 0.5714$$

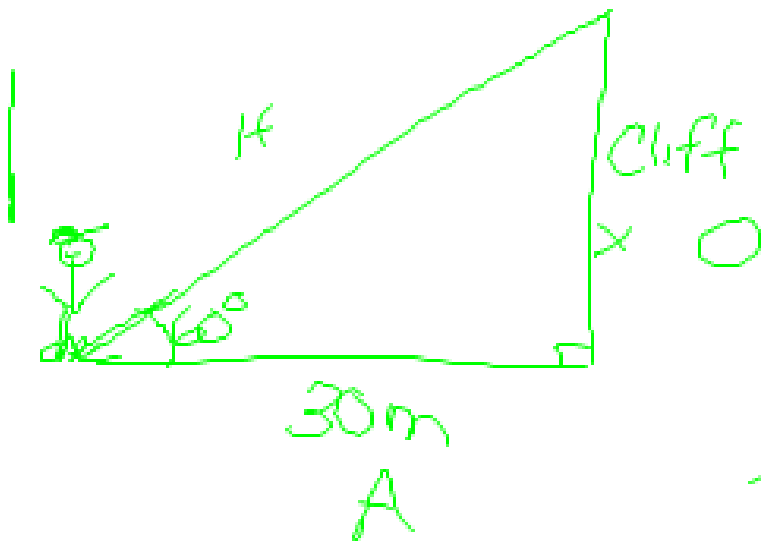
$$\theta = \cos^{-1}(0.5714)$$

$$\theta = 55.15$$

The measure of angle C is 55° .

The shoreline of Prince Edward Island is made of red sandstone cliffs and sandy beaches. A tourist standing on a beach is 30 m from the base of a vertical cliff. The top of the cliff makes a 60° angle with the ground at the tourist's feet.

- Sketch the situation.
- How high is the cliff, to the nearest metre?



$$\tan \theta = \frac{O}{A}$$

$$\tan 60 = \frac{x}{30}$$

$$30(1.73) = \frac{x}{30} \rightarrow 30$$

$$\boxed{51.96 = x}$$

The cliff 52m high.

Nicholas is a scout leader. His scout troop is camping along the banks of Northwest Pond in Camp Nor'Wes, NL. Across the pond from the campsite, there is a dock and a walking trail. The trail leads to cabins where another troop is staying. If the cabins are at a 34° angle from the campsite and the trail is 210 m long, what is the distance across the pond from the campsite to the dock, to the nearest metre?

