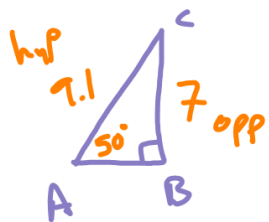


Batman fires his Bathook to escape from Dr. Evil. He measures the angle w/ the Bat-protractor to get 30° . How long is the rope that he will slide down?

Find the missing sides & angles



$\angle A = 50^\circ$ $AB = 5.8$
 $\angle B = 90^\circ$ $BC = 7$
 $\angle C = 40^\circ$ $AC = 9.1$
 (180-90-50)

$$\sin 50^\circ = \frac{7}{x} \quad \frac{o}{h}$$

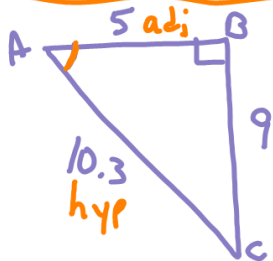
$$7 = x \frac{\sin 50^\circ}{\sin 50^\circ}$$

$$9.1 = x$$

$$x^2 + 7^2 = 9.1^2$$

$$x^2 + 49 = 82.8$$

$$\sqrt{x^2} = \sqrt{33.8} \quad x = 5.8$$



$\angle A = 61^\circ$
 $\angle B = 90^\circ$
 $\angle C = 29^\circ$

$$\cos^{-1}\left(\frac{5}{10.2}\right) = 61$$