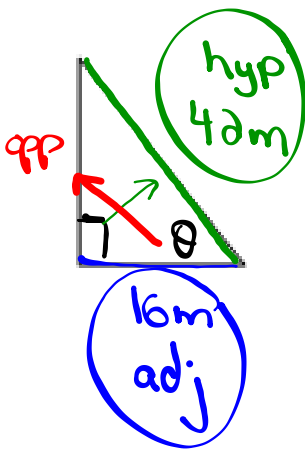


1. A 42m ladder leans against a wall. The bottom of the ladder is 16m from the base of the wall. What angle does the ladder make with the ground?



$$\cos \theta = \frac{a}{h}$$

$$\cos \theta = \frac{16}{42}$$

$$\cos \theta = 0.3810$$

$$\theta = 68^\circ$$

2. A ladder is leaned against the wall and makes a 38° angle with the ground. If the ladder reaches 33m up the wall, how long is the ladder?



$$\sin \theta = \frac{o}{h}$$

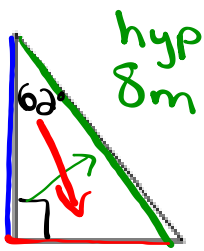
$$\sin 38^\circ = \frac{33}{x}$$

$$x \cdot 0.6157 = \frac{33}{x} \cdot x$$

$$\frac{0.6157x}{0.6157} = \frac{33}{0.6157}$$

$$x = 53.6$$

3. An 8m ladder makes an angle of 62° with the wall. How far is the bottom of the ladder from the base of the building?



\times
opp

$$\sin \theta = \frac{o}{h}$$

$$\sin 62^\circ = \frac{x}{8}$$

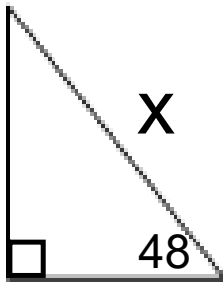
$$8 \cdot 0.8829 = \frac{x}{8} \cdot 8$$

$$7.1 = x$$

Homework

2, 3, 7-11

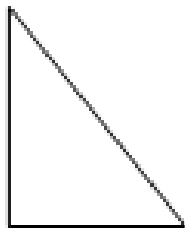
Find the value of x .



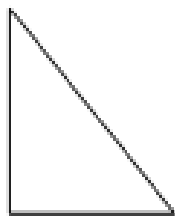
A tree, 18m high casts a shadow 22m long.
Calculate the angle the sun makes to the ground at
this time of day.



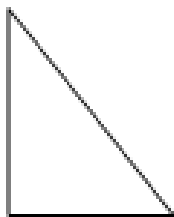
A statue casts a shadow that is 43.3m long. The rays of the sun strike the ground at an angle of 36° . Calculate the height of the statue.



A tower is supported by a guy wire 18.5m in length and meets the ground at an angle of 59° . At what height on the tower is the guy wire attached?



A 10.5m ladder is leaned against a wall, with the foot of the ladder 1.6m from the base of the wall. Find the angle between the ladder and the ground.



A 16m ladder is leaned against a wall. If the ladder reaches 10m up the wall, what is the angle the ladder makes with the ground?

