

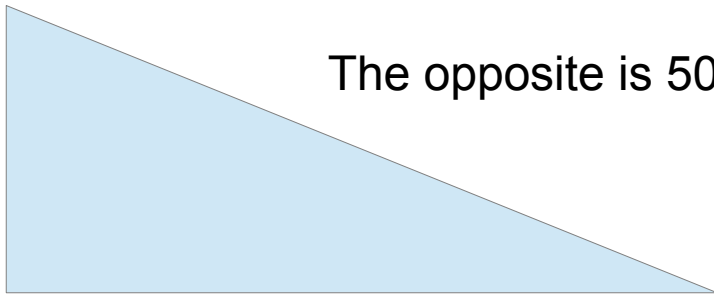
SINE (angle) = percentage

A percentage of what?

-- the **opposite** side is this percentage of the **hypotenuse**

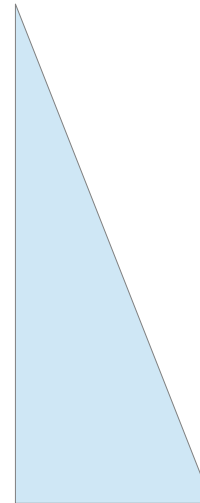
$$\text{SINE } (30^\circ) = 0.5$$

The opposite is 50% of the hypotenuse



$$\text{SINE } (70^\circ) = 0.93$$

The opposite is 93% of the hypotenuse



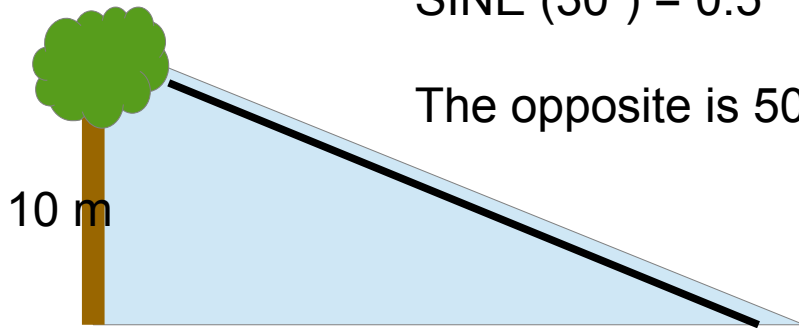
SINE (angle) = percentage

How do we use that information?

-- To solve for an unknown side

$$\text{SINE } (30^\circ) = 0.5$$

The opposite is 50% of the hypotenuse



Since we know this relationship, if this is a tree that is 10 m high... and a kite is stuck in the tree... how long is the string of the kite?

SINE (angle) = percentage

How do we use that information?

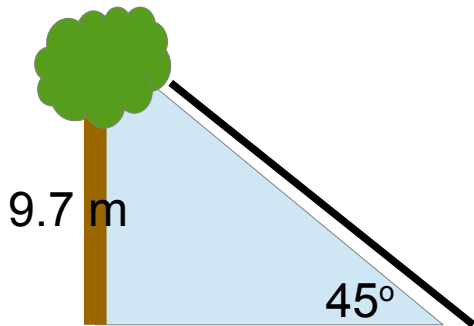
-- To solve for an unknown side

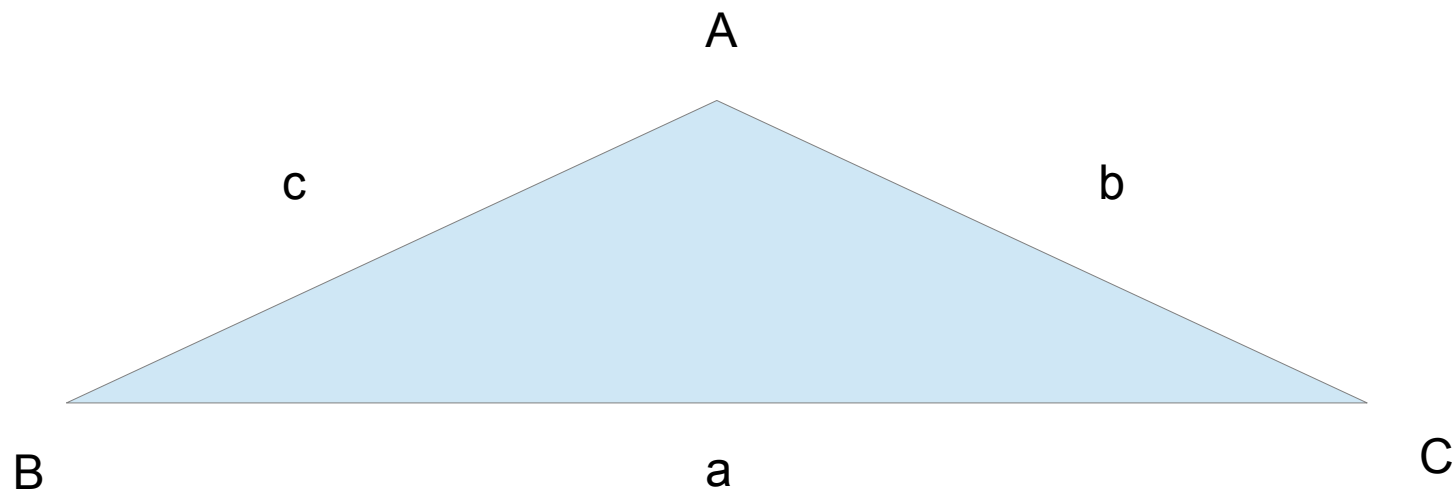
$$\text{SINE } (45^\circ) = 0.707 \text{ --> } 70.7\%$$

9.7 is 70.7% of however long
The string is (x)

$$x * 0.707 = 9.7$$

$$x = 13.72 \text{ m}$$





$$\frac{\text{Sine (B)}}{b} = \frac{\text{Sine (A)}}{a}$$