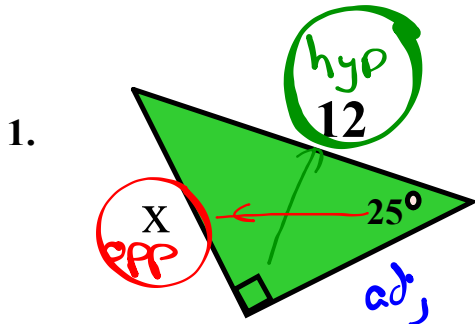


Warm Up Questions

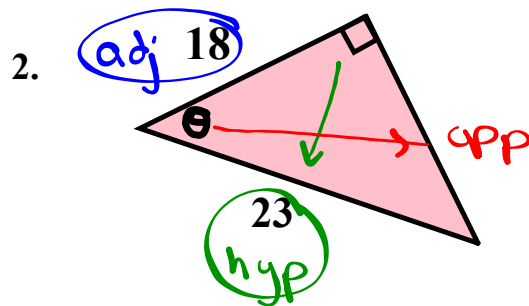


$$\sin \theta = \frac{o}{h}$$

$$\sin 25^\circ = \frac{x}{12}$$

$$0.4226 = \frac{x}{12}$$

$$\boxed{5.1 = x}$$



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

$$\cos \theta = \frac{18}{23}$$

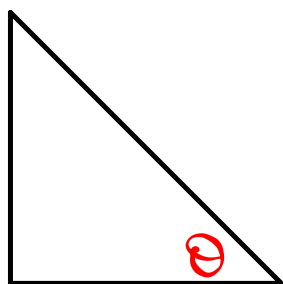
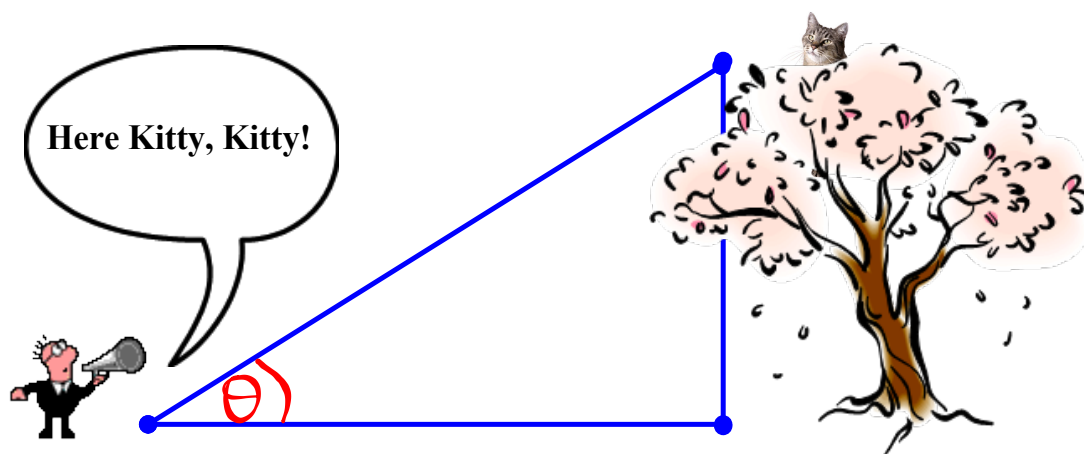
$$\cos \theta = 0.7826$$

$$\boxed{\theta = 38^\circ}$$

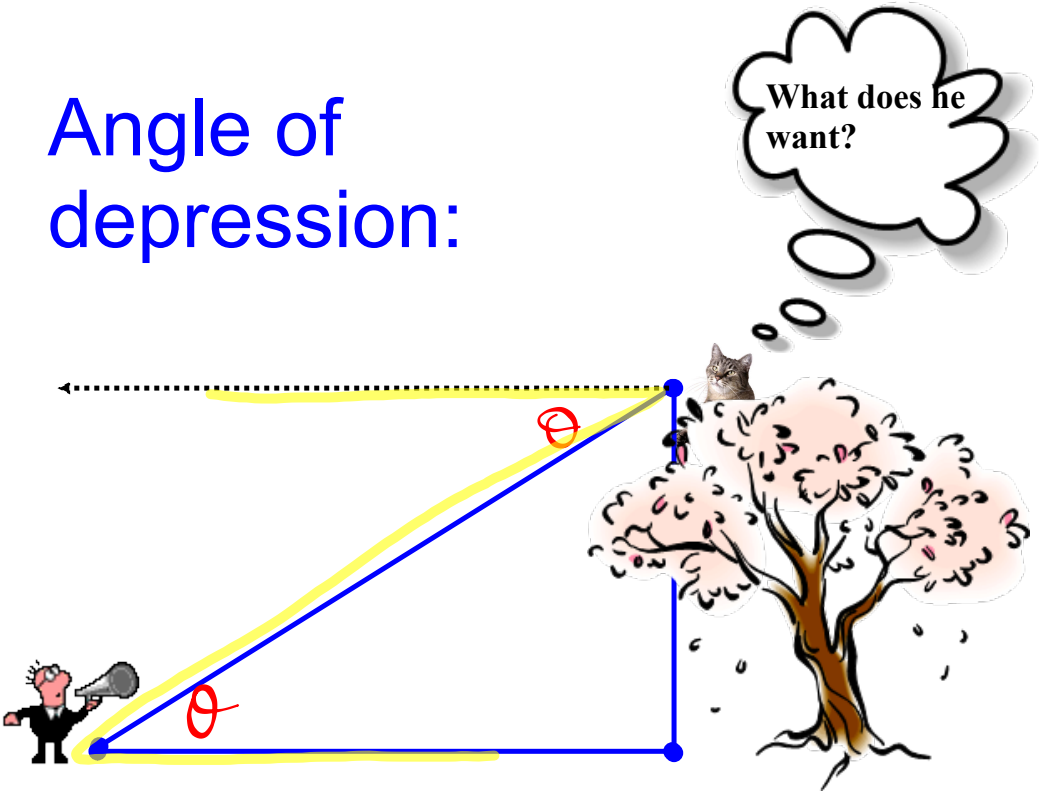
$$\sin\theta = \frac{o}{h} \quad \cos\theta = \frac{a}{h} \quad \tan\theta = \frac{o}{a}$$

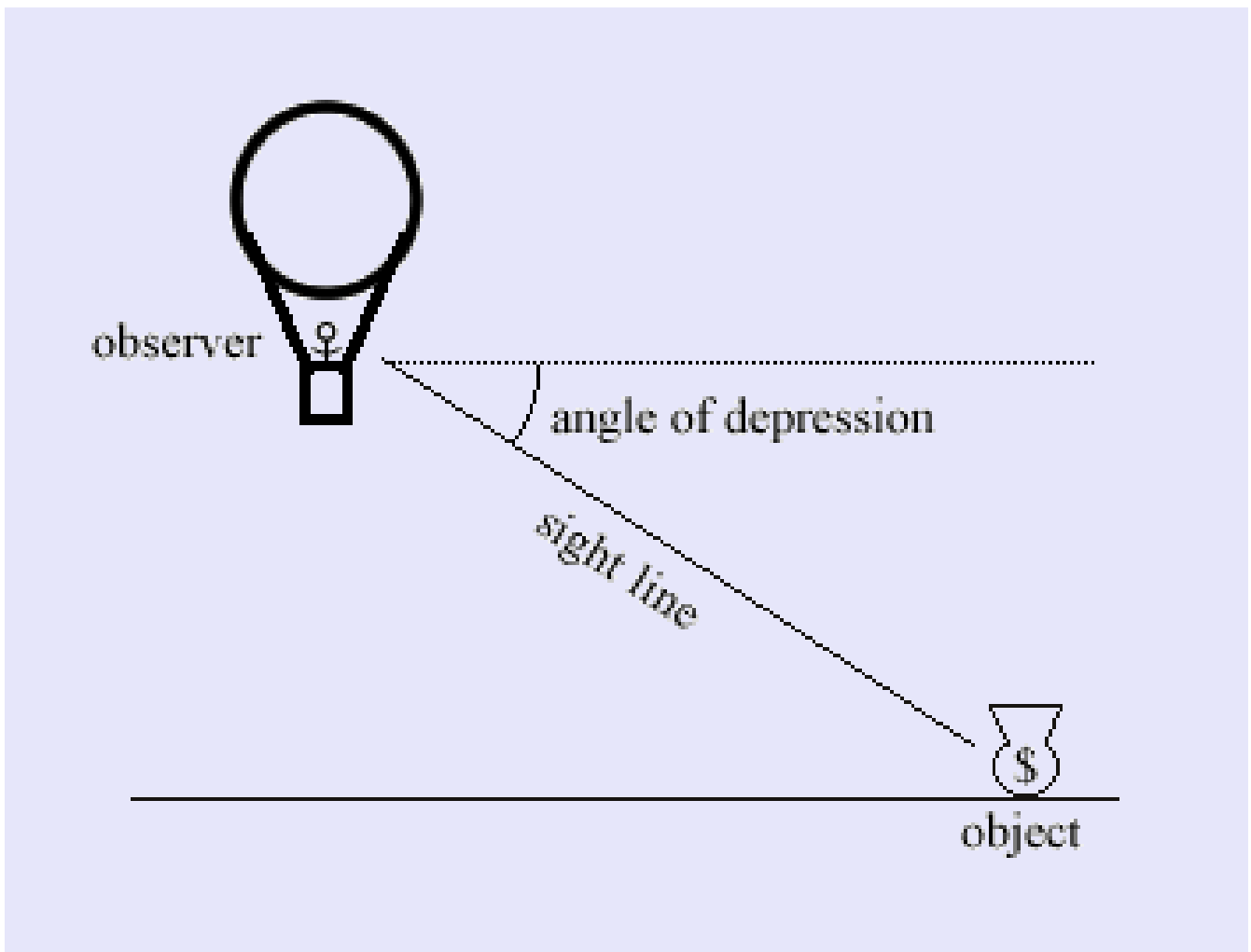


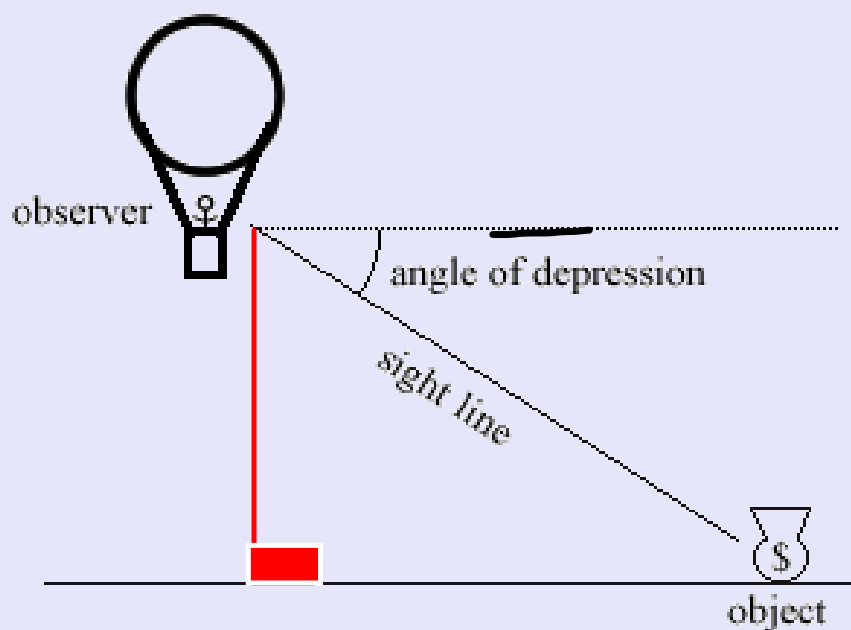
Angle of elevation:



Angle of depression:







How does angle of depression help if it isn't in the triangle?

observer

angle of depression

sight line

object

observer

angle of depression

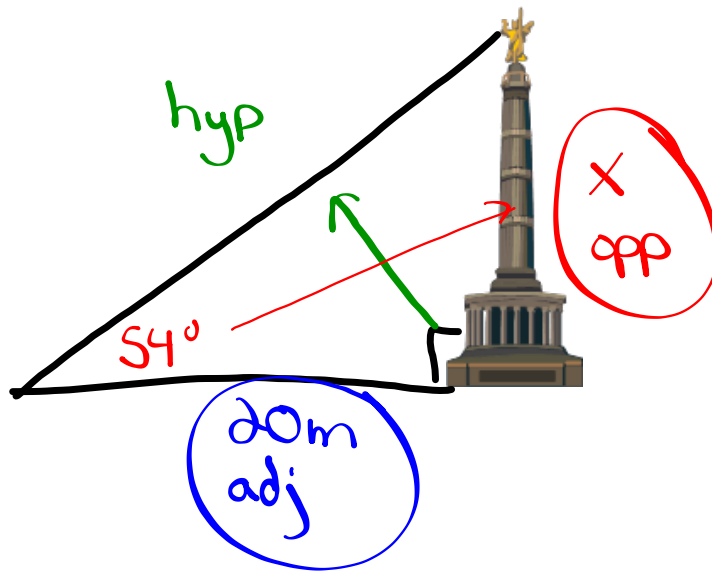
sight line

object

Alternate Interior angles are equal!

How does angle of depression help if it isn't even in the triangle?

The angle of elevation to the top of a tower is 54 degrees. If the person is 20m away from the tower, how tall is the tower?



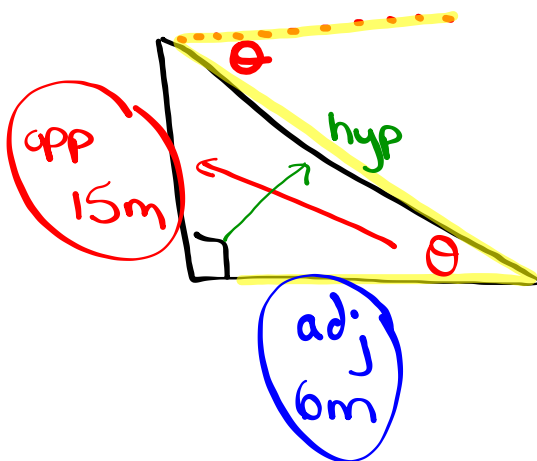
$$\tan \theta = \frac{o}{a}$$

$$\tan 54^\circ = \frac{x}{20}$$

$$20 \cdot 1.3764 = \frac{x}{\cancel{20}} \cdot \cancel{20}$$

$$\boxed{27.5m = x}$$

Calculate the angle of depression from the top of a building to a puppy on the ground, if the building is 15m tall and the puppy is 6m from the building.



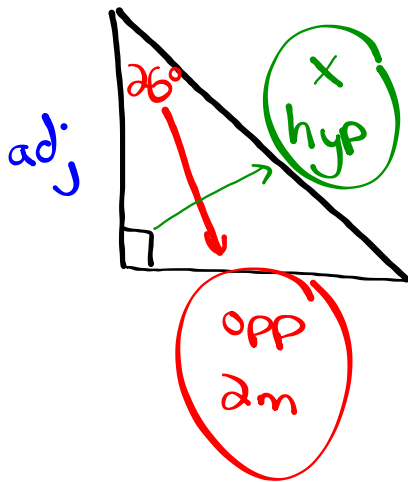
$$\tan \theta = \frac{o}{a}$$

$$\tan \theta = \frac{15}{6}$$

$$\tan \theta = 2.5$$

$$\theta = 68^\circ$$

A ladder leans against a building and makes an angle of 26 degrees with the wall. If the base of the ladder is 2 m from the wall, how long is the ladder?



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

$$\sin 26^\circ = \frac{2}{x}$$

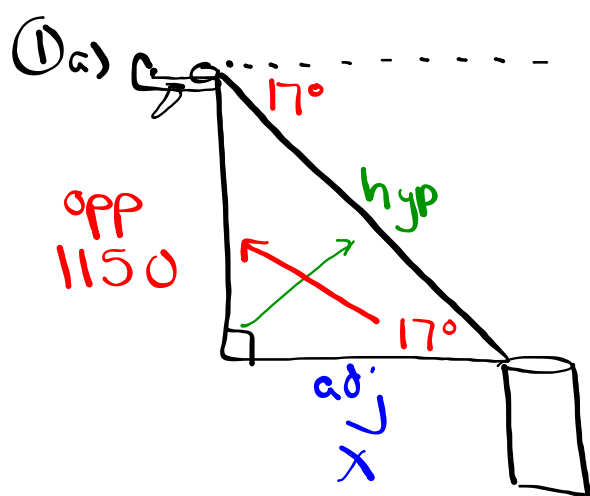
$$x \cdot 0.4384 = \frac{2}{x}$$

$$\frac{0.4384x}{0.4384} = \frac{2}{0.4384}$$

$$x = 4.6 \text{ m}$$

Homework

Finish worksheet



$$a) \tan \theta = \frac{o}{a}$$

$$\tan 17^\circ = \frac{1150}{x}$$