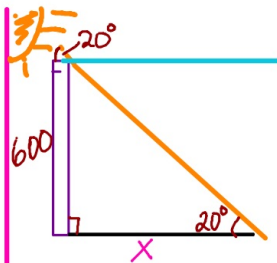


October 29

SWBAT:

Solve Application Problems with trig functions

If the sun is 20° above the horizon, find the length of a shadow cast by a building that is 600 feet tall.

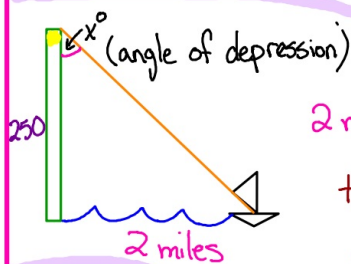


$$\tan(20) = \frac{600}{x}$$

$$x \tan(20) = \frac{600}{\tan(20)}$$

$$x = 1648.486 \text{ ft}$$

Find the angle of depression from the top of a lighthouse 250 feet above water level to the water line of a ship 2 miles off shore



$$2 \text{ miles} = 10560 \text{ ft}$$

$$\tan(x) = \frac{10560}{250}$$

$$x = \tan^{-1}\left(\frac{10560}{250}\right)$$

$$x = 88.643^\circ$$

A sign on the roadway at the top of a mountain indicates that for the next 4 miles the grade is 10.5° . Find the change in elevation for a car descending the mountain.



$$\sin(10.5) = \frac{y}{4}$$

$$4 \sin(10.5) = y$$

$$.728 \text{ miles} = y$$

Keep track until Nov 15

Project Due Nov. 27