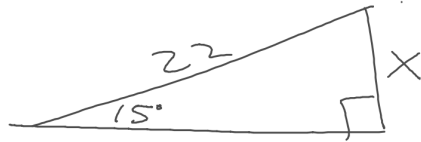


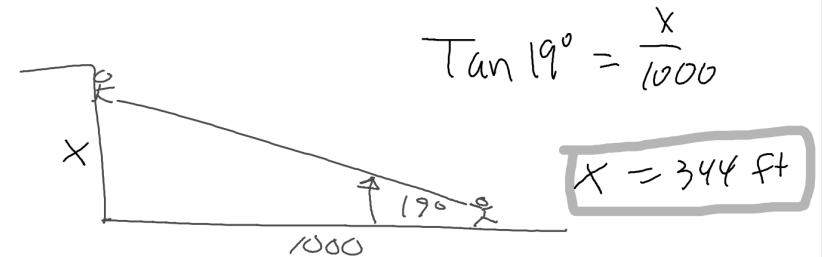
A 22 foot long ramp runs from the parking lot up to the loading dock of a building. The ramp makes a 15° angle with the ground. How high above the parking lot is the loading dock? Round to the nearest tenth of a foot.



$$\sin 15^\circ = \frac{x}{22}$$

$$x = 5.7 \text{ ft}$$

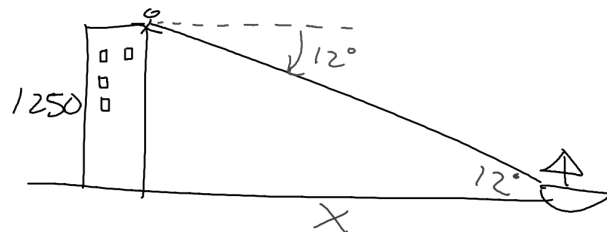
You are 1000 feet from the base of a cliff and see a rock climber with an angle of elevation of 19° . How high up on the cliff is the rock climber? Round to the nearest whole foot.



$$\tan 19^\circ = \frac{x}{1000}$$

$$x = 344 \text{ ft}$$

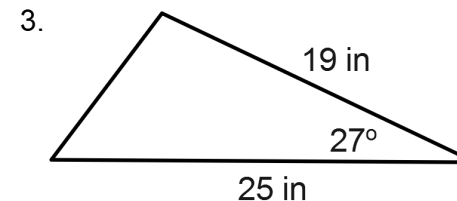
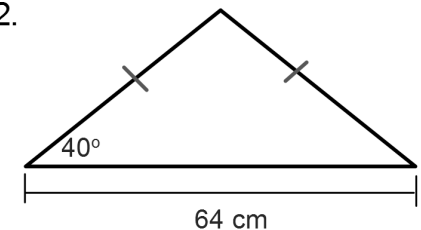
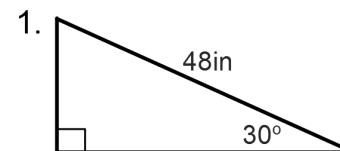
You are at the top of the Empire State Building in New York City, 1250 above the ground. You see a ship on the East River with an angle of depression of 12° . How far away from the Empire State Building is the ship? Round to the nearest whole foot.



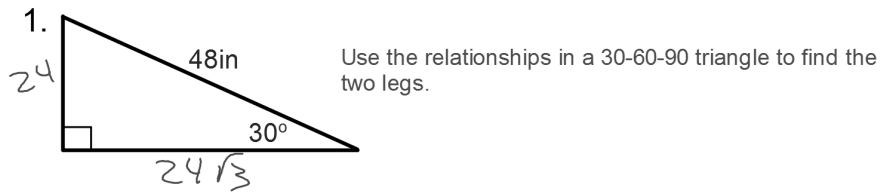
$$\tan 12^\circ = \frac{1250}{x}$$

$$x = 5881 \text{ ft}$$

Find the area of each triangle. Round to the nearest tenth where necessary.



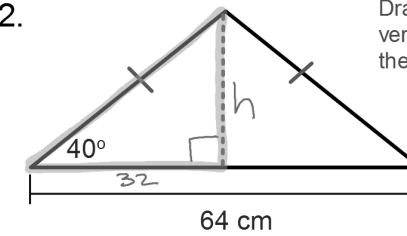
Find the area of each triangle. Round to the nearest tenth where necessary.



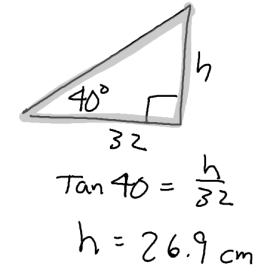
$$A = \frac{1}{2}bh$$

$$= \frac{1}{2}(24\sqrt{3})(24) = 498.8 \text{ m}^2$$

2.



Draw the height from the base to the opposite vertex. Because this is an isosceles triangle the height bisects the base.



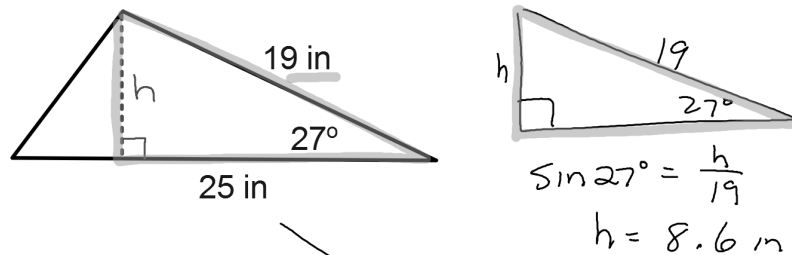
$$A = \frac{1}{2}bh$$

$$= \frac{1}{2}(64)(26.9)$$

$$= 860.8 \text{ cm}^2$$

3.

Draw the height from the base to the opposite vertex.



$$A = \frac{1}{2}bh = \frac{1}{2}(25)(8.6) = 107.5 \text{ m}^2$$