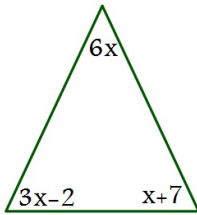
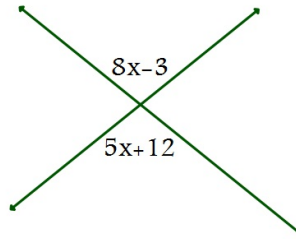


Spiral Review:

1. Solve for x .



2. Solve for x .

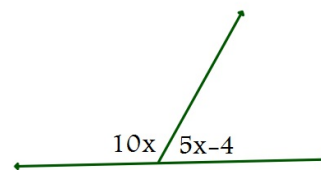


3. If slope is -4 , find:

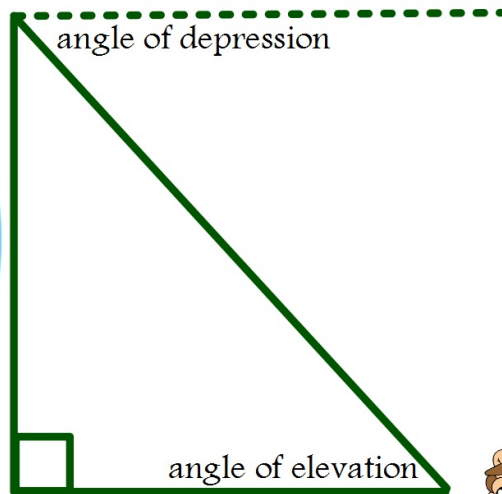
slope of line parallel: _____

slope of line perpendicular: _____

4. Solve for x .



p.580 8.5 Angles of Elevation and Depression



I still need to use
SOH CAH TOA



*When a picture is not given, we will use the template given in this picture.

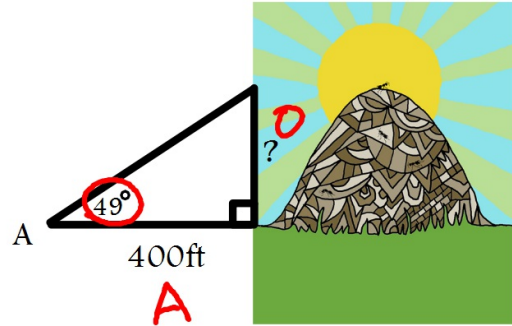
Examples: Solve each problem. Round measures of segments to the nearest tenth and angles to the nearest degree.

a.) The angle of elevation from point A to the top of the hill is 49° . If point A is 400 ft from the base of the hill, how high is the hill?

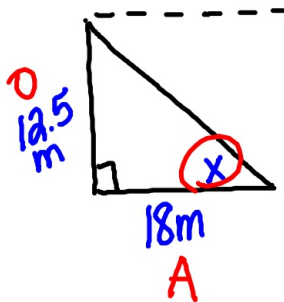
$$\frac{\tan 49}{1} = \frac{x}{400}$$

$$400 \tan 49 = x$$

$$x = 460.1 \text{ ft}$$



b.) Find the angle of elevation of the sun when a 12.5 m tall telephone pole casts a 18 m long shadow.

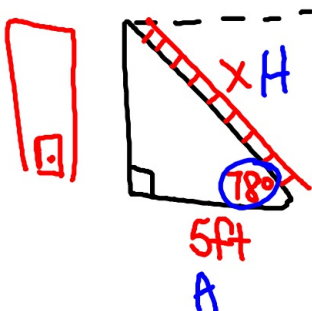


$$\tan x = \frac{12.5}{18}$$

$$\boxed{\text{2nd}} \boxed{\text{tan}} (12.5 \div 18)$$

$$x = 35^\circ$$

c.) A ladder leaning against a building make an angle of 78° with the ground. The foot of the ladder is 5 ft from the building. How long is the ladder?



$$\frac{\cos 78}{1} = \frac{5}{x}$$

$$\frac{x \cos 78}{\cos 78} = \frac{5}{\cos 78}$$

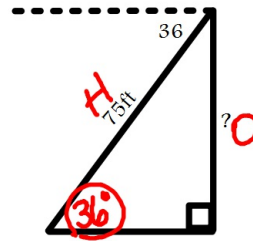
$$x = 24 \text{ ft}$$

d.) The angle of depression from a balloon on a 75 foot string to a person on the ground is 36° . How high is the balloon?

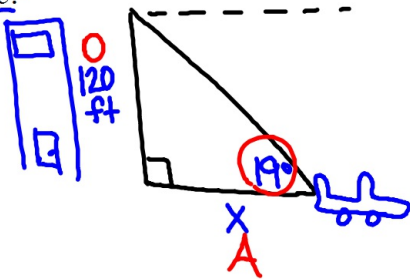
$$\sin 36 = \frac{x}{75}$$

$$75 \sin 36 = x$$

$$x = 44.1 \text{ ft}$$



e.) From the top of a 120ft high tower, an air traffic controller observes an airplane on the runway at an angle of depression of 19° . How far from the base of the tower is the plane?



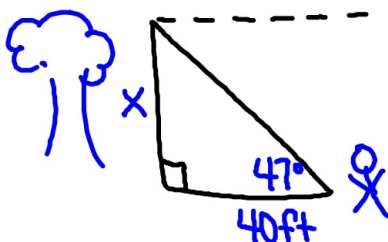
$$\tan 19 = \frac{120}{x}$$

$$\frac{x \tan 19 = 120}{\tan 19}$$

$$x = 348.5 \text{ ft}$$

f.) From her position in a hot air balloon, Angie can see her car parked in a field. If the angle of depression is 8° and Angie is 38m above the ground, what is the straight-line distance from Angie to her car?

g.) You stand 40ft from a tree. The angle of elevation from you to the top of the tree is 47° . How tall is the tree?



$$\tan 47 = \frac{x}{40}$$

$$x = 40 \tan 47$$

$$x = 42.9 \text{ ft}$$

Turn-in:
Quick Check 8.5

HW:
wkst 8.5
on back p.583 (2,5,7)