

#1. Graph the line with the equation  $y = \frac{1}{2}x$ .

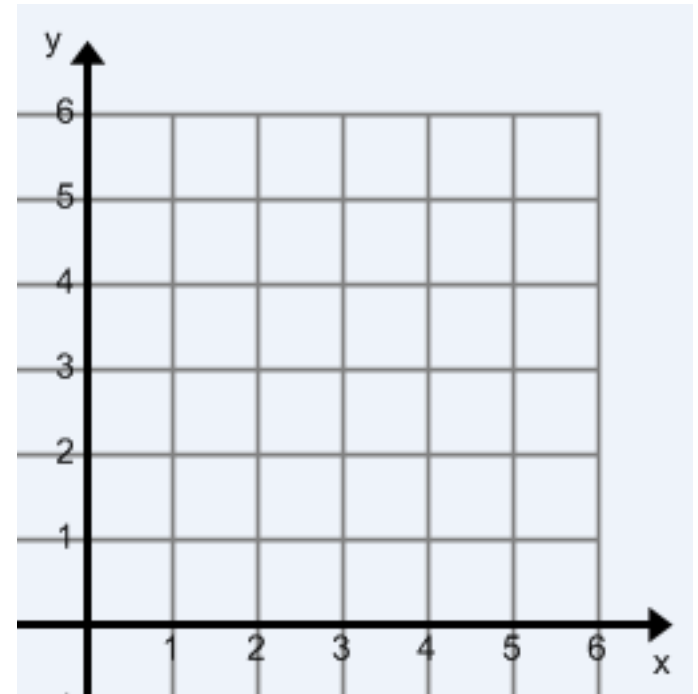
a. Find a point on the line to find the following trig ratios.

$$\cos \theta =$$

$$\sin \theta =$$

$$\tan \theta =$$

b. Find the measure of  $\theta$ .



#2. Tonya is flying a kite that is on 300 feet of string. Tonya is holding the string 5 feet off the ground, in her hand. Her friend is standing directly below the kite, 260 feet away from Tonya. Assuming that the ground is level and the string tight, solve the following.

- a. Draw a sketch and label any known lengths.
  
  
  
  
  
  
  
  
  
  
- b. Determine the angle of elevation.
  
  
  
  
  
  
  
  
  
  
- c. Find how high in the air the kite is flying.

#3 The terminal side of an angle  $\theta$  in standard position passes through the point (15,8).

a. Draw the angle in standard position, construct a right triangle, label all sides and angles.

b. Find the three trig ratios.

$$\cos \theta =$$

$$\sin \theta =$$

$$\tan \theta =$$

c. Find the measure of angle  $\theta$ .

#4. Bill has a 12 ft. ladder leaning against a house. The ladder touches the ground at a point 6 feet from the house.

a. Draw a sketch of the situation and label any known lengths.

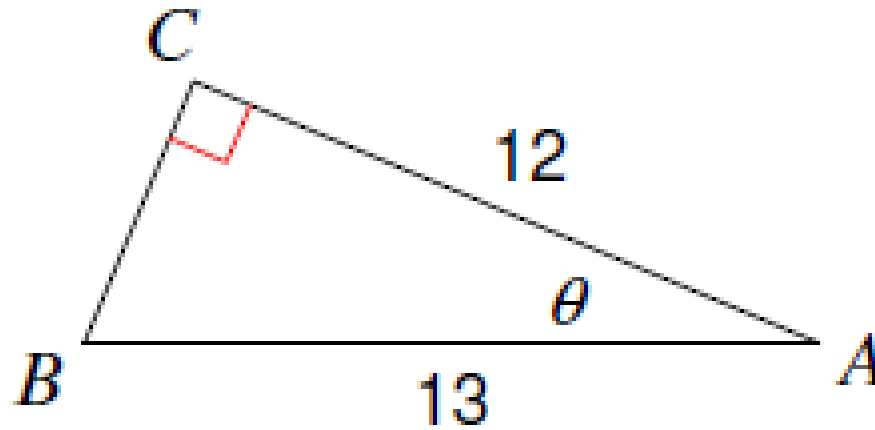
b. How high up the house does the ladder reach?

c. What angle does the ladder make with the ground?

#5. Mike has a ladder 25 ft. in length leaning against a house. The ladder touches the house at a point 20 feet above the ground.

- a. Draw a sketch of the scenario and label any known lengths.
- b. How far away is the ladder from the base of the house?
- c. What angle does the ladder make with the ground? Round to the nearest hundredth.

#6. Find all missing sides and angles:



$$\angle A =$$

$$\angle B =$$

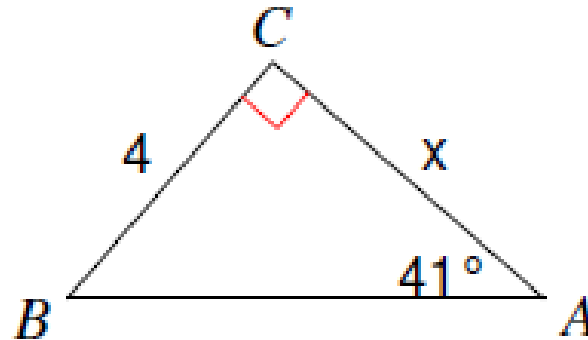
$$a =$$

#7. In a right triangle  $b=13$  and  $a=4$ .

a. Draw and label the right triangle.

b. Find all of the missing sides and angles.

#8. Find all missing sides and angles:



$$\angle B =$$

$$b =$$

$$c =$$



#9. In a right triangle  $b=10.8$  and  $\angle B=57^\circ$ .

a. Draw and label the right triangle.

b. Find all of the missing sides and angles.

#10 Find the measure of angle  $\theta$  if its terminal side passes through the point  $(5,5)$ .