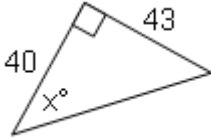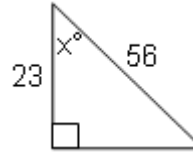**Name** _____

> **You must draw a picture, write an equation, and show all of your work.**
> **Round all angles to the nearest degree and all lengths to the nearest thousandth.**

#1-2, Find the angle x.

1)

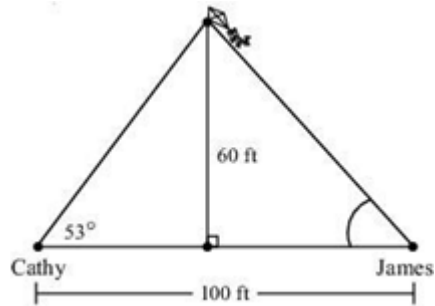43

40

x°

2)

x°   56

23

3) The 600 Block of Powell Street in San Francisco has a steep rise. If it takes 66 feet along the horizontal for the street to rise 10 feet, find the angle the street makes with the horizontal.
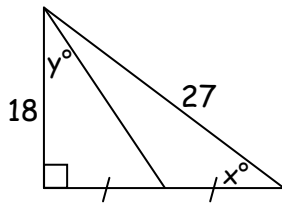
4) Find the measure of the angle that is formed by the intersection of the sun's rays and the ground if a 4.2 m. flagpole casts a 2.1 m. shadow.

5) In a below level parking garage, each level is 20 feet apart. Each ramp to a level is 130 feet long. Find the measure of the angle that the ramp makes with each level.

6) Cathy is flying a kite. The angle of elevation from Cathy to the kite is $53°$ and the altitude of the kite is 60 feet. James is standing 100 feet from Cathy in the same vertical plane as Cathy and the kite. To the nearest degree, what is the angle of elevation from James to the kite?

60 ft

53°

Cathy

James

100 ft

7) Find the values of x and y.

$y°$

18

27

$x°$

8) The angle of depression from the top of a 320 ft office building to the top of a 200 ft office building is 55°. How far apart are the buildings?