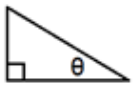
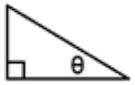
Trig Ratios & Angle of Elevation

Feb 19, 2014 Wed

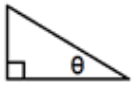
1) Given the trig ratio, label the right triangle. State the other two trig ratios in simplified radical form.

a) $\cos\theta = \frac{2}{5}$ 

$\sin\theta = ?$ $\tan\theta = ?$

b) $\sin\theta = \frac{3}{7}$ 

$\cos\theta = ?$ $\tan\theta = ?$

c) $\tan\theta = \frac{4}{3}$ 

$\sin\theta = ?$ $\cos\theta = ?$

2) A plane is flying at an altitude of 3000 ft when the plane begins its decent toward the ground. If the angle of decent is 15°,

a) use a trig ratio to determine how far (horizontally) the plane is from its landing location?

b) use a trig ratio to determine the (diagonal) distance the plane travels from 3000 ft to zero ft?

3) You place a 12 foot ladder against a wall such that it makes a 65° angle with the level ground. How far up the wall is the top of the ladder?

4) A flagpole casts a shadow that is 15 feet long. The angle of elevation at this time is 40°. How tall is the flagpole?

5) A hot air balloon is 100 feet vertically above the location where it is planning to land. You are some distance from the landing site and you know that at your present location the angle of elevation is 35°. How far from the landing site are you?

6) A ramp is used for loading equipment from a dock to a ship. The ramp is 10 feet long and the ship is 6 feet higher than the dock. What is the angle of elevation?