Name_____Date_____

Angle of Elevation & Depression Trig Worksheet

*Draw and label a picture for each problem

1. Brian's kite is flying above a field at the end of 65 m of string. If the angle of elevation to the kite measures 70°, and Brian is holding the kite 1.2 m off the ground. How high above the ground is the kite flying?

2. From an airplane at an altitude (height) of 1200 m, the angle of depression to a rock on the ground measures 28°. Find the distance from the plane to the rock.

3. From a point on the ground 12 ft from the base of a flagpole, the angle of elevation of the top of the pole measures 53°. How tall is the flagpole?

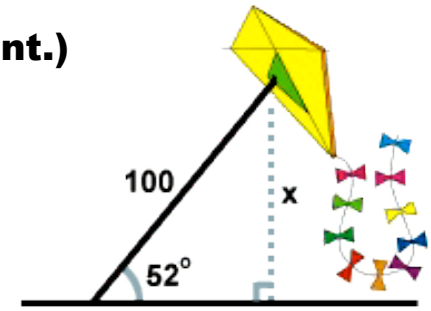
4. From a plane flying due east at 265 m above sea level, the angles of depression of two ships sailing due east measure 35° and 25 °. How far apart are the ships?

Name_____Date_____

Angle of Elevation & Depression Worksheet (Cont.)

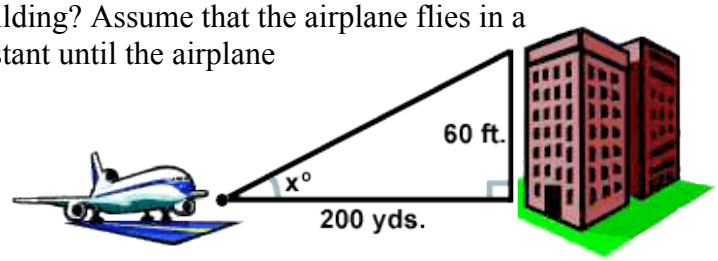
Find all values to the nearest tenth.

5. A man flies a kite with a 100 foot string. The angle of elevation of the string is 52°. How high off the ground is the kite?



6. From the top of a vertical cliff 40 m high, the angle of depression of an object that is level with the base of the cliff is 34º. How far is the object from the base of the cliff?

7. An airplane takes off 200 yards in front of a 60 foot building. At what angle of elevation must the plane take off in order to avoid crashing into the building? Assume that the airplane flies in a straight line and the angle of elevation remains constant until the airplane flies over the building.



8. A 14 foot ladder is used to scale a 13 foot wall. At what angle of elevation must the ladder be situated in order to reach the top of the wall?

9. A person stands at the window of a building so that his eyes are 12.6 m above the level ground. An object is on the ground 58.5 m away from the building on a line directly beneath the person. Compute the angle of depression of the person's line of sight to the object on the ground.

10. A ramp is needed to allow vehicles to climb a 2 foot wall. The angle of elevation in order for the vehicles to safely go up must be 30° or less, and the longest ramp available is 5 feet long. Can this ramp be used safely?