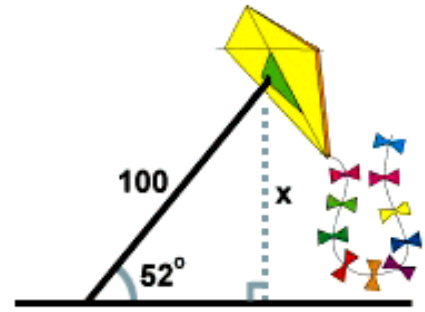


# Angle of Elevation & Depression Worksheet

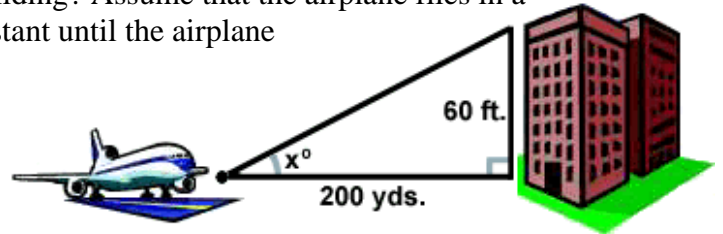
Find all values to the nearest tenth.

1. A man flies a kite with a 100 foot string. The angle of elevation of the string is  $52^\circ$ . How high off the ground is the kite?



2. 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  $34^\circ$ . How far is the object from the base of the cliff?

3. 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.



4. 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?
5. 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.
6. 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  $30^\circ$  or less, and the longest ramp available is 5 feet long. Can this ramp be used safely?

