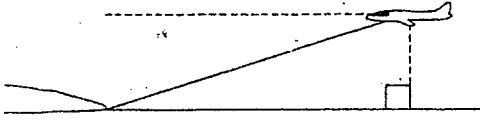


Name: _____

Hand in Assignment: Problems With Right Triangles

Draw a diagram and show your work for the following questions. Please circle your answers.

1. An Air Canada commuter jet is flying at an altitude of 6100m over the Great Lakes. At a certain time, the angle of depression to the shoreline from the jet is 37° . How much farther does the jet have to fly before it reaches the shoreline? Make your answer correct to the nearest metre.



2. A guy wire is fastened to the ground 17m from the base of a microwave tower. The wire makes an angle of 60° with the ground. How high up the tower does the guy wire reach? Make your answer correct to one decimal place.

3. At a point 50m from a telephone pole, the angle of elevation to the top of the pole is 40° . The observer's eyes are 0.9m above the ground. How tall, to the nearest tenth of a metre, is the telephone pole?

4. Thomas sights a tree 16 m distant and his eyes elevate 41° from horizontal to see the tree top. Thomas' eyes are 1.1 m above the ground. How tall, to the nearest tenth of a metre, is the tree?

5. From a window in the school, a student measured the angle of elevation of the top of a flagpole as 28° and angle of depression of the base as 40° . The student knows she made the measurements from 16 ft. above the ground.

- Find the horizontal distance between the student and the flagpole to the nearest ft.
- Find the height of the flagpole to the nearest ft.

6. Two towers are 60 m apart. From a point halfway between the towers, the angles of elevation of the tops of the towers are measured. Find the height of each tower to the nearest metre, if the angle of elevation of the tower on the right is 18° and the angle of elevation of the tower on the left is 24° .