Word Problems Practice Worksheet

Name: ____

Solve the following word problems using the Pythagorean theorem, trigonometric ratios or trigonometric functions.

1) Joe is standing a distance of 20 m away the foot of a tower. He is looking up at the tower at a 40° degree angle. What is the height of the tower?

2) A ramp has an angle of 20° from the ground. It has a vertical height of 1.0 m. What is the length of the ramp?

3) A damaged tree is supported by a guy wire 10.0 m long. The wire makes an angle of 61° with the ground. Calculate the height at which the guy wire is attached to the tree.

4) Michael is flying a kite. The kite string makes an angle of 57° with the ground. If Michael is standing 100 feet from the point on the ground directly below the kite find the length of the kite string.

5) A fire department's longest ladder is 110 feet long, and the safety regulation states that they can use it for rescues up to 100 feet off the ground. At what safe angle can the ladder be placed with the ground?

6) From the foot of a building I have to look upwards at an angle of 22° to sight the top of a tree. From the top of a building, 150 meters above ground level, I have to look down at an angle of depression of 50° to look at the top of the tree.

a. How tall is the tree?

b. How far from the building is the tree?