Name _____   Date _____

Trigonometric Ratios and the Pythagorean Theorem - Independent Practice

Complete all the problems.

1. A pair of elephants walks 26 meters on a straight slope. The height of the slope is 12 meters. Find the angle between ground and the top of the hill.

2. A 300 meters meter piece of plywood leans against a tree. The height of a tree is 240 meters. Find the angle that the plywood makes with the ground?

3. A 25 meter rope is nailed to a tree. The distance between nail and the base of tree is 10 meter. Find the angle made by rope with the tree?

4. Julia rides a horse with a 20 meter straight rope. There is an angle of elevation of 70° to the top of the rope. What is the maximum height (in meters) between rope and the ground?

5. A 50-foot building cast a shadow of that is 25 feet long. Find the angle of elevation (in degrees) of the sun at this point of time.

6. An airplane flies at 250 feet. James saw the airplane and makes a slope of 500 feet long. What is the angle of elevation (in degrees) made?

7. Alexander wants to climb a hill. The height of hill is 15,000 feet. He was 300 feet far from the hill. Find the angle of elevation (in degrees) which the road makes with the horizontal.

8. A 51-foot ladder is leaning on a building. The ladder base is 17 feet from the building. Find the angle that the ladder makes with the ground.

9. Find the length of the hypotenuse of a right triangle, if the lengths of the other two sides are 3 inches and 4 inches.

10. Find the length of one side of a right triangle, if the length of the hypotenuse is 10 inches and the length of the other side is 9 inches.