

Name \_\_\_\_\_

Homework Trig Day 6 Assortment

1-13 Draw a picture for each problem, then write a trig. equation and solve. Round to thousandths. **Do all work on a separate piece of paper.**

\_\_\_\_\_ 1) The angle of elevation from the top of a small building to the top of a tall building is  $46^\circ$ . The angle of depression from the top of the small building to the bottom of the tall building is  $14^\circ$ . The height of the small building is 28 ft. Find the height of the tall building.

\_\_\_\_\_ 2) The angle of elevation from a point 80 meters from the base of a building to the top of the building is  $51^\circ$ . The angle of elevation from the same point to the top of a flagpole that's on the top of the building is  $54^\circ$ . Find the length of the flagpole.

\_\_\_\_\_ 3) The lengths of the sides of a parallelogram are 15 cm and 10 cm. The length of the longer diagonal is 20 cm. Find the measure of the angles of the parallelogram.

\_\_\_\_\_ 4) Nick and Kristyn start their mopeds from the same place at the same time, but travel in different directions. Nick is traveling at 60 mph and Kristyn at 40 mph. Assuming they each travel in a straight path, what's the measure of the angle between their paths if after 2.5 hours they are 230 miles apart?

\_\_\_\_\_ 5) A regular pentagon is inscribed in a circle. The radius of the circle is 4 cm. Find the perimeter of the pentagon.

\_\_\_\_\_ 6) Find the perimeter of an isosceles triangle if the length of the base is 56cm. and the base angles are  $63^\circ$ .

\_\_\_\_\_ 7) The bearing from Brenda to Dalton is  $300^\circ$ . Naomi is 15 ft west of Brenda. The bearing from Naomi to Dalton is  $50^\circ$ . Find the distance from Brenda to Dalton.

\_\_\_\_\_ 8) Mitchell travels 16 miles on a bearing of  $320^\circ$ . He then turns and travels 50 miles on a bearing of  $210^\circ$ . Find the distance from where Mitchell started to where he is now.

9-10 An observer 2 km from a launching pad, observes a vertically ascending missile at an  $\angle$  of elevation of  $22^\circ$ . Five seconds later, the  $\angle$  of elevation to the missile is  $35^\circ$ .

\_\_\_\_\_ 9) How far did the missile travel during the 5-second interval?

\_\_\_\_\_ 10) What was the average speed during the 5-second interval (in km/hr)?

\_\_\_\_\_ 11) Jose is standing 18 ft due south of Amanda. The bearing from Amanda to Candice is  $200^\circ$  while the bearing from Jose to Candice is  $300^\circ$ . Find the distance from Amanda to Candice.

\_\_\_\_\_ 12) Ariel travels 260 m on a bearing of  $330^\circ$ . She then travels 50 m on a bearing of  $240^\circ$ . Find the bearing and the distance from where Ariel started to where she is now.

\_\_\_\_\_ 13) A ship is moving towards a lighthouse. At 5:00 the angle of depression from the top of the lighthouse to the boat is  $16^\circ$ . Fifteen minutes later, the angle of depression from the top of the lighthouse to the boat is  $36^\circ$ . The height of the lighthouse is 68.7 ft. Find the distance the boat traveled from 5:00 to 5:15.