

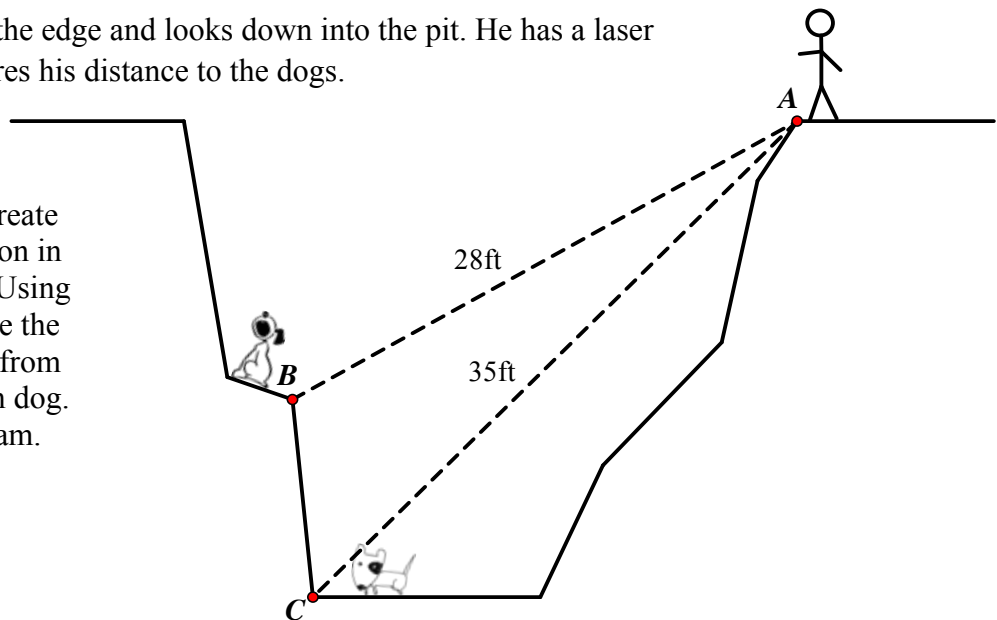
**Geometry 5c: Solving Right Triangles in Context**  
**Homework #5**

Name \_\_\_\_\_

Pd \_\_\_\_\_ Date \_\_\_\_\_

1. Grandma has a giant lava tube in her back yard that just collapsed. Two of her sweet dogs have fallen into the chasm and need to be rescued. Her grandson stands at the edge and looks down into the pit. He has a laser range finder and measures his distance to the dogs.

- a. Draw a triangle to create an angle of depression in the diagram above. Using a protractor, measure the angle of depression from the grandson to each dog. Label it in the diagram.



- b. How far below the ground is the dog at point B?

- c. How far below the ground is the dog at point C?

2. An engineer who is 6 feet tall stands at the base of a hill. She is taking the elevation from his position to the top of the hill. Her laser rangefinder tells her that the angle of elevation to the top of the hill is  $15^\circ$  and the line of sight distance is 124 ft.
- Draw and label a diagram to represent this situation.
  - Set up two different equations (using trig. ratios) that could be used to find the height of the hill.
  - Use one of your equations to determine the height of the hill.
3. You stand 40 ft from a tree. The angle of elevation from your feet to the top of the tree is  $47^\circ$ . How tall is the tree?
4. You are flying a kite and let out 45 ft of string. The kite is 20 ft above the ground. What is the angle of elevation from you to the kite?