



2007 State Competition

FFA Agricultural Mechanics Contest

University of Missouri

50 points

Contestant # _____

Contestant Name _____

Chapter _____

Soil and Water

Directions: Please circle the appropriate answer or fill in the blank for each question. When you are finished please turn your sheet in. Remember to put your name, contestant number and chapter on your paper. Not doing so will result in a zero for this section. If you have questions please feel free to ask.

*** Up to 5 safety points will be deducted from your final score if necessary. Please wear your safety glasses and practice safe methods while competing in this activity.**

Using the hand held GPS receiver, find the distance between the riser pipe in the terrace (Point 1) and drain tile outlet in the waterway (Point 2) using the following steps:

- a. One must walk around the parking lot.
- b. This distance cannot be paced off.
- c. Use the following equation: $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$
- d. 1 meter = 3.28 feet

1. Record the readings below. (10 pts)

Point	Easting (X) meters	Northing (Y) meters

2. Distance (in feet) between riser pipe (Point 1) and outlet (Point 2): (10 pts)

3. Using the distance calculated above, what is the cost for the drain tile needed to drain the terrace to the waterway? 6" drain tile pipe cost \$1.70/ft (5 pts)

Answer: _____

4. Using the level tagged # 5, determine if it is level 360 degrees. (5 pts)

- a. YES
- b. NO

5. What is the reading, designated by the rubber band, on the Philadelphia rod that is tagged # 6? (3 pts)

Answer: _____

6. What tool is tagged # 7? (5 pts)

- a. Plumb-Bob
- b. String level
- c. Measuring line
- d. Chalk line

7. What instrument is tagged # 8? (5 pts)

- a. Engineer's level
- b. Surveyor's level
- c. Hand level
- d. Scope level

8. How many acres are in the shaded area of the section of land on the sheet provided? (4 pts)

- a. 180
- b. 240
- c. 80
- d. 160

9. On the topography map provided, which point has the highest elevation? (3 pts)

- a. X
- b. Y
- c. Z

