NAME	STATE	COLOR	STUDENT #	SCORE

National Ag Mechanics CDE Theme: Integrated Pest Management
Individual Skills/ Problem Solving: Environment and Natural Resources, 2010

INFORMATION:
This activity is worth a maximum of 30 points. You will have 20 minutes to complete the project. You will be split into two groups. Read through the instructions and procedures carefully before you begin. **(If you don't know if it is OK- Ask before you do it!)**

PROBLEM STATEMENT:
You are an employee of a organic dairy operation that is sensitive to water runoff from lagoons and pastures that have had land nutrient applications. You have been instructed to determine the elevation of several points of interest and calculate slopes and land area in preparation for installing a manure handling and water retention system.

INSTRUCTIONS: SURVEYING GROUP

Procedures:

1. Utilize the surveying equipment to answer the questions below.
2. Take rod readings for each location and record.
3. The Bench Mark elevation is 100 feet at the Clean Out Cap.
4. Determine the elevation of each system component.
5. Indicate your answers to the nearest hundredth foot.
6. You may use the following chart to assist in your calculations if you wish.

Station	Back Sight Reading	Height of Instrument	Foresight Reading	Elevation	Notes
Clean Out Cap				**100 feet**	Benchmark

What is the elevation of the black drainage fitting? _____ 2 pts _____

What is the elevation of the TEE? _____ 2 pts _____

What is the elevation of the WYE? _____ 2 pts _____

What is the elevation of the COUPLING? _____ 2 pts _____

What is the elevation of the 45° ELBOW? _____ 2 pts _____

PROBLEM STATEMENT:

You are a new golf course superintendent and you have determined that the greens on the golf course are in need of maintenance. Determine the size of the greens and what the fertilization and irrigation rate of the green is based upon its size.

INSTRUCTIONS: PROBLEM SOLVING QUESTIONS

- Determine the Area of the Golf Course Green
- Answer each question.
- Round your answer to the 2nd decimal place.

QUESTIONS:

What is the total area of the golf green in square feet?

_____ 5 pts _____

What is the total area of the golf green in acres?

_____ 5 pts _____

What is the total number of pounds of granular nitrogen fertilizer required for the green if the application rate is 2.0 lbs. per acre?

_____ 5 pts _____

How many gallons of water does it take to soak the green with 1 inch of water?

_____ 5 pts _____