



**2023 State Competition
FFA Agricultural Mechanics
Contest University of Missouri**



Environmental and Natural Resource System

Total Score (Out of 50 points)

Points are based on your performance of proper procedures as well as skill activities. Please practice safe methods while completing these activities as some points will be allocated to safety. If you need any clarifications please ask for assistance. Read instructions carefully and thoroughly before completing each question or section.

<u>Point Evaluation</u>	<u>Points Possible</u>	<u>Points Earned</u>
Hand Levels	12	_____
Chaining	6	_____
Pacing	14	_____
<u>Legal Land Description</u>	<u>18</u>	_____
<i>Total Points</i>	<i>50</i>	_____

DO NOT move the equipment. If caught deliberately tampering with the equipment, your test will be revoked and you will not receive a score.

If any of the equipment has moved or otherwise misplaced, ask a proctor for assistance.

Hand Leveling

1. Using the hand level, estimate the difference in elevation between points X and Y . (6)

Elevation Difference (to nearest 1 ft): _____

2. Using the hand level, determine which of the four marked stakes (A, B, C, or D) is NOT on the same contour line. (6)

Answer: _____

Chaining (i.e., Engineer's Tape)

3. A distance is measured using a 100 ft Add tape. On the final reading, the Rear Chainman is holding 3 chaining pins and calls out "45". The Head Chainman's measurement is marked by the pin on the ground against the tape. Indicate the total length of the survey. Margin of error is 0.1 ft. (6)

Answer: _____

Pacing

The two orange cones provided are 100 feet apart. *You can use them to determine your pace.*

Margin of error is 1 ft per 50 ft of distance.

4. What is the distance between points A & B in feet? (4)

Answer: _____

5. What is the distance between points B & C in feet? (4)

Answer: _____

6. What is the area of the triangle marked, assuming that A & B is the height and B & C is the leg of a right triangle? (6)

Answer: _____

Legal Land Description

Use the land diagram for Section 25 of a Township to answer the following questions. (*Recall that a Section is 1 square mile*):

7. What is the legal land description of the portion marked A? (6)

Answer: _____

8. How many acres are in the area designated by A? (6)

Answer: _____

9. How many feet of fence would you have to build to completely enclose area A? (6)

Answer: _____

Section 25

