



Contestant Name: Key

Practicum 4

Practicum Score: 100 pts

School: \_\_\_\_\_

**2025 Kansas State Agriculture Technical and Mechanical Systems  
Natural Resources Practicum Activity – 100 points**

**Instructions:** Place all answers on this page. Follow all instructions carefully and completely in order to obtain full points for this activity. Each section will be completed separately by a team member.

**Section 1 – Setting up builder's level**

(15 points possible)

Setup Score: scored by event judge

Set up the level in the designated area and demonstrate to an event monitor that it is set up correctly. Go ahead and take the readings if you are waiting for someone to check your setup.

Record the proper reading on the right. Be sure to use the proper label. (5 points each)

A. Rod reading at site #1.

Site 1 : \_\_\_\_\_

B. Rod reading at site #2.

Site 2 : \_\_\_\_\_

C. Calculate the change in elevation between Site 1 & Site 2. Elevation Change: 1.19  $\pm .2$

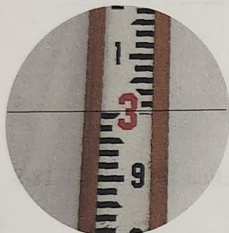
D. Calculate the slope. Assume that the distance between Site 1 and Site 2 is 68.5 feet.

$1.19 / 68.5 = .01737$  Slope: 1.74%

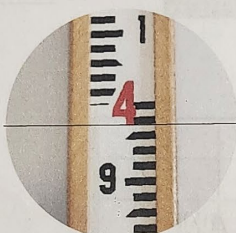
Pick up the builder's level so that your next teammate can set it up.

**Section 2 – Calculating Elevation and Slope**

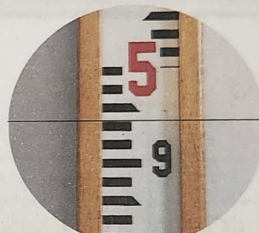
Use the following level sightings to answer the questions on the back.



**Benchmark Reading (BM)**



**F.S. #1**



**F.S. #2**

**Given:**

1. The instrument has been correctly leveled.
2. All readings above represent the views through the instrument as you look at the benchmark, F.S. #1 and F.S. #2.
3. The elevation at the benchmark is assumed to be 100 feet.

E. Record the proper rod readings (NOT ELEVATIONS) for each of the sites below. (5 pts each)

BM Reading: 3.0'  
or 3.01

F.S. #1 Reading: 3.97'

F.S. #2 Reading: 4.94'

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F. Calculate the **ELEVATION** for each of the following: (5 points each)

What is the height of the instrument?

Height of Instrument: 103.0'

Elevation at F.S. #1?

F.S. #1 Elevation: 99.03'

Elevation at F.S. #2?

F.S. #2 Elevation: 98.06

### Section 3: Legal Land Description (30 points)

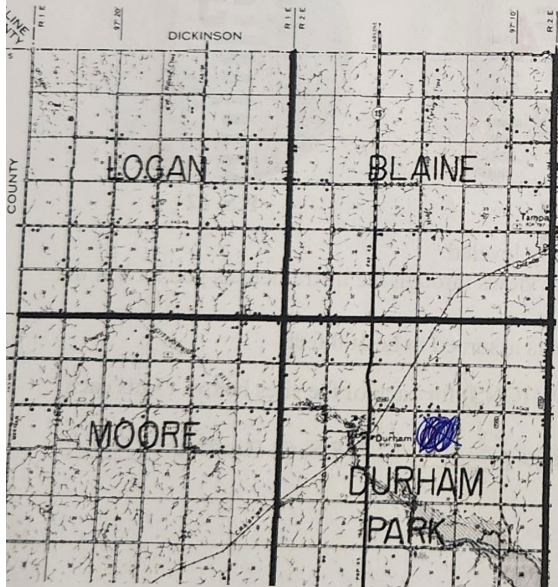


G. This section of ground is 1 mile by 1 mile. It is Section 24 in Range 3 East and Township 20 South. Write the **COMPLETE** legal description for each of the lettered land areas. (5 points each)

- A.  $N\frac{1}{2}$  Sec. 24 R-3-E, T-20-S  
B.  $W\frac{1}{2}$ ,  $SE\frac{1}{4}$  Sec. 24 R-3-E, T-20-S  
C.  $SW\frac{1}{4}$  Sec. 24 R-3-E, T-20-S  
D.  $NE\frac{1}{4}$ ,  $SE\frac{1}{4}$  Sec. 24 R-3-E, T-20-S

H. What is the size of each tract in acres? (2 pts ea)

- A. 320 B. 80 C. 160 D. 40



I. Shade in Section 15, R-2-E, T-18-S (4 points)

J. What is the name of the township that would be in R-1-E, T-17-S? (3 points)

Logan