



# Land Surveyor Training

Prepared By Landon Blake  
Problem Set 104

*Use Exhibit #1 to answer Question #1 to Question #10.*

## **Question #1**

What is the Lateral 232 station and offset for the control point RH #3?:

- a) 12+60
- b) 12+90
- c) 13+20
- d) 24+20

## **Question #2**

A new control point (RH #5) is set at the following coordinate:

N: 8080.00

E: 7850.00

What is the Lateral 232 station and offset for RH #5?:

- a) 12+10.00
- b) 12+30.00
- c) 23+50.00
- d) 23+60.00

## **Question #3**

What is the bearing/distance of the horizontal line between RH #2 and RH #3?:

- a) N 35-00-00 E
- b) N 45-00-00 W
- c) S 35-00-00 E
- d) S 45-00-00 E

## **Question #4**

A total station is set at RH #1 with an HI of 5.20, a backsight is taken to RH #2 with a RH of 6.50. What will the slope distance measured by the total station be?:

- a) 9.92
- b) 9.29



- c) 220.23
- d) 220.43

## **Question #5**

The sanitary sewer manhole identified as SS MH 63 has a lateral 232 station offset of 11+10.00 20.00 left. The sanitary sewer manhole identified as SS MH 64 has a lateral 232 station offset of 10+70.00 30.00 right. What is the bearing between the SS MH 64 to SS MH 63?:

- a) S 41-31-50 E
- b) N 41-31-50 E
- c) S 88-57-38 E
- d) N 88-57-38 W

## **Question #6**

A total station is set at RH #2. A back-sight is taken to RH #1. An angle-to-the right of 113-57-45 is taken to RH #4. The horizontal distance between RH #2 and RH #4 is 178.88. What is the Northing and Easting of RH #4?:

- a) N 8350.00 E 7900.00
- b) N 8023.40 E 7885.15
- c) N 8400.00 E 8100.00
- d) N 8432.66 E 8114.57

## **Question #7**

The data in the coordinate table contains a mistake. What is it?:

- a) No stations are shown.
- b) No offsets are shown.
- c) The elevation for RH #2 is too low.
- d) There is a typo in the northing for RH #5.

## **Question #8**

A total station traverse between RH #2, RH #3, and RH #5 measured the following interior angles:

- 20-41-59
- 139-45-59
- 19-32-09



What is the angular closure error of the traverse?:

- a) + 7 Seconds
- b) - 7 Seconds
- c) + 3 Minutes
- d) -3 Minutes

### **Question #9**

A total station is set at RH #3. A back-sight is taken to RH #5. Which foresight observation from that set-up should have the least amount of error?:

- a) RH #3 to RH #2
- b) RH #3 to RH #4
- c) RH #3 to RH #1
- d) RH #3 to SS MH 63

### **Question #10**

A total station is set at RH #1 with an HI of 5.32, a foresight is taken to a rod on SS MH 63 with a rod height of 6.50. The measured Zenith angle is  $90^{\circ}20'32''$ . What is the elevation of SS MH 64?:

- a) 2324.12
- b) 2323.35
- c) 2322.17
- d) 2322.94

### **Question #11**

Which real estate legal principle is most likely to be known as “squatter’s rights”?:

- a) Prescriptive Easement
- b) Adverse Possession
- c) Color of Title
- d) Foreclosure



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## **Question #12**

Which phrase best defines zoning?:

- a) Land use regulations applying to parcels in the same geographic area
- b) Rules related to protection of sensitive habitat
- c) Land use regulations defined in CC+RS
- d) Rules defined by the state government for buildings built in flood zones

## **Question #13**

A temporary easement would most likely be used for:

- a) A new county road.
- b) A building encroachment.
- c) A cell tower lease.
- d) Access for construction

## **Question #14**

An original controlling corner is typically created by:

- a) A subdivision survey.
- b) A retracement survey.
- c) A land title survey.
- d) A court judgement.

## **Question #15**

A fee simple parcel is best defined as:

- a) A parcel held through payment of an annual fee.
- b) A parcel granted for payment of a one-time fee.
- c) A parcel from which the mineral rights have been severed.
- d) A parcel owned exclusively until sold.



*Use Exhibit #2 to answer Question #16 to Question #20.*

## **Question #16**

At which identified point on the map would we expect distortion in the orthophoto to be worst?:

- a) RH #1
- b) RH #2
- c) A
- d) C

## **Question #17**

As the UAV moves down flight line #1 over Blakes Creek, what happens to the footprint of each image?:

- a) The footprint gets smaller.
- b) The footprint gets larger.
- c) There is no change.
- d) The footprint changes orientation.

## **Question #18**

Four new control points will be set before the UAV flight. Which point identified on the map would be the most redundant?

- a) A
- b) C
- c) D
- d) E

## **Question #19**

How could you improve the configuration of the flight lines?:

- a) Use a zig-zag pattern.
- b) Lower the flying height.
- c) Space them farther apart.
- d) Orient them parallel to the creek.



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## **Question #20**

What is the biggest problem with the proposed control point configuration?:

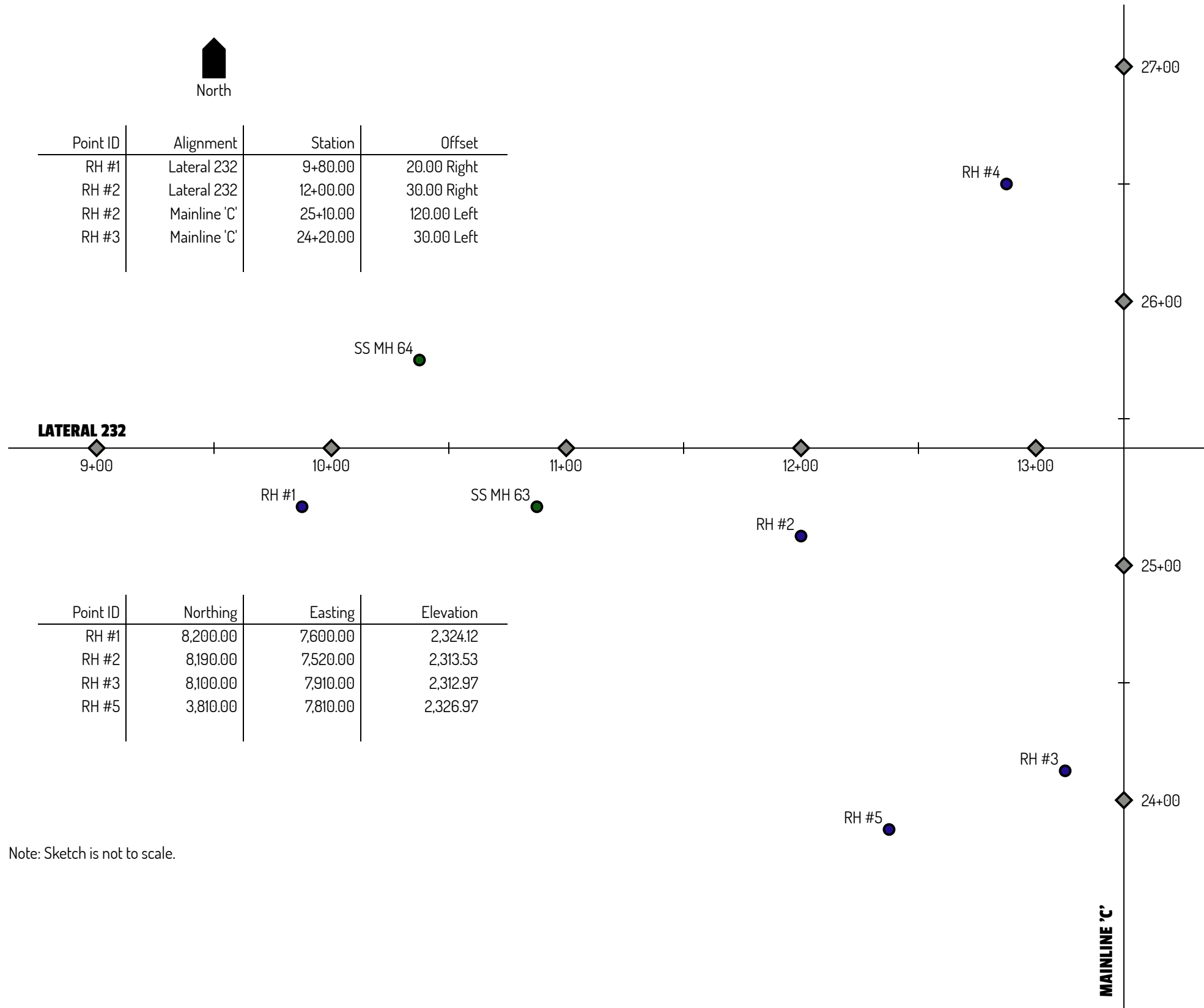
- a) The control points aren't evenly spaced.
- b) The control points aren't intervisible.
- c) There is too much vertical change between control points.
- d) The control points are bunched on  $\frac{1}{2}$  of the project site.



# Problem Set 105 - Exhibit 1



Point ID	Alignment	Station	Offset
RH #1	Lateral 232	9+80.00	20.00 Right
RH #2	Lateral 232	12+00.00	30.00 Right
RH #2	Mainline 'C'	25+10.00	120.00 Left
RH #3	Mainline 'C'	24+20.00	30.00 Left



Point ID	Northing	Easting	Elevation
RH #1	8,200.00	7,600.00	2,324.12
RH #2	8,190.00	7,520.00	2,313.53
RH #3	8,100.00	7,910.00	2,312.97
RH #5	3,810.00	7,810.00	2,326.97

Note: Sketch is not to scale.



# Problem Set 105 - Exhibit 2

