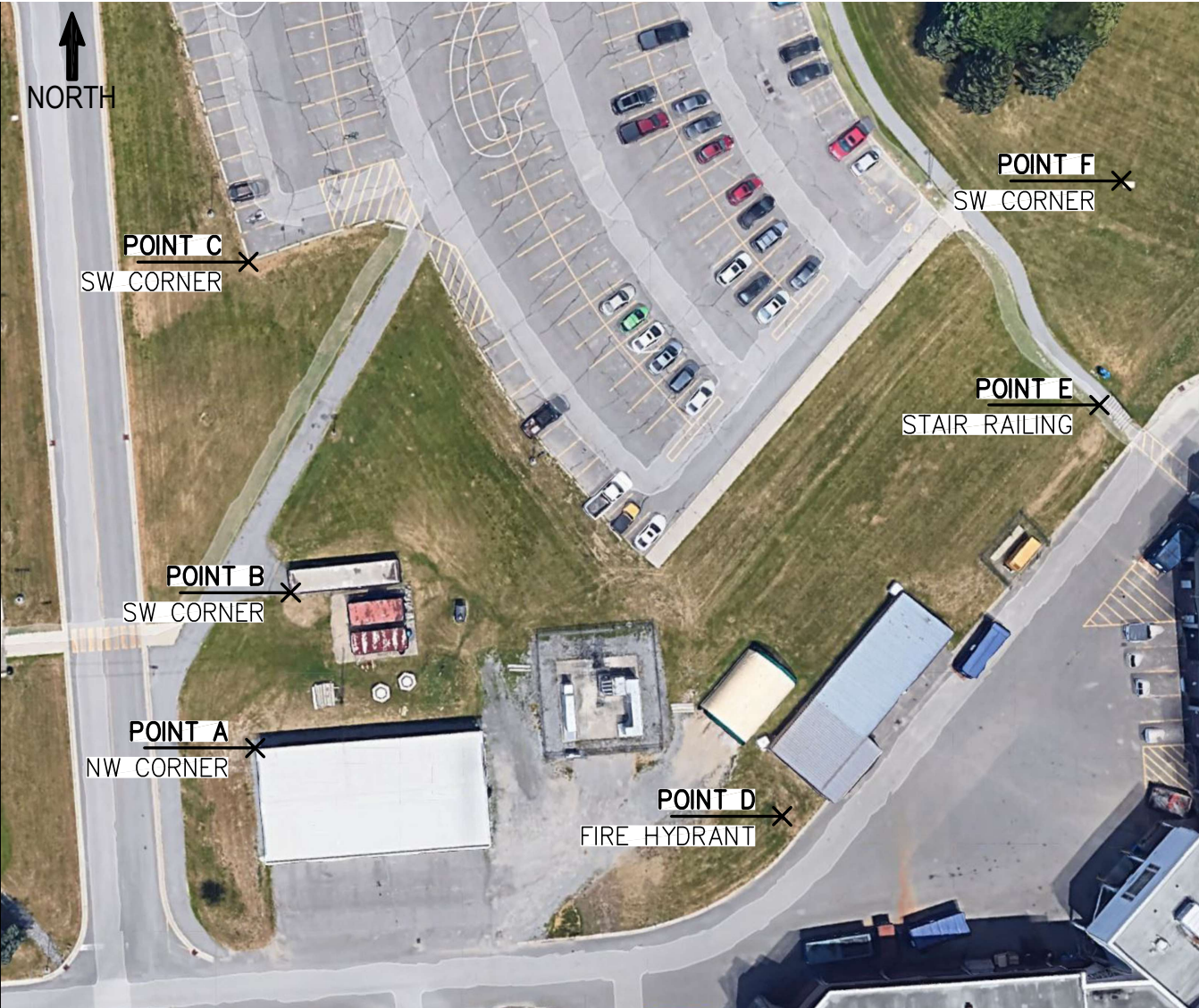


Student names (please print)

_____	_____	_____
_____	_____	_____

Objective

Using the materials provided you are required to determine the shortest distance between two points (displacement) and the total distance you travelled to get between those two points. You are not able to measure directly between the two points and must use vectors to solve the problem.



Instructions

1. Using a survey tape and a compass app on your smartphone, measure a route between the two points assigned to your group (see map).

Asphalt is Lava

You are not permitted to measure across parking areas or traffic lanes

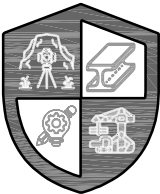
2. Record the length and bearing of your measurements along the route.
3. Plot your trip accurately to scale using a ruler, a protractor on the provided title block. Dimension all lengths and angles.
4. Use your scaled drawing to answer the questions below.

Routes

- option 1 - travel from point A to point E
- option 2 - travel from point B to point D
- option 3 - travel from point C to point D
- option 4 - travel from point D to point C
- option 5 - travel from point E to point A
- option 6 - travel from point F to point D

Questions

1. Draw to a scale of 1:500 the path you traveled today. Clearly dimension the vectors and their angles. Draw the resultant vector. Label the sketch to the same precision as the measurements you took. A title block has been provided.
2. What was the total distance you traveled along the route? report to the correct number of significant digits.
3. Solve graphically: when you finished how far away were you from where you started and what was the bearing? Measure this from your sketch, report to the correct number of significant digits.
4. Solve numerically: when you finished how far away were you from where you started and what was the bearing?
5. Pretend you took another path to get from start to finish. would total distance traveled change? Would total displacement change? explain.



**CIVIL ENGINEERING
TECHNOLOGY**
ST. LAWRENCE COLLEGE
KINGSTON, ONTARIO, CANADA

COURSE NAME:

SUBMITTED TO:

ASSIGNMENT / PROJECT:

NAME:	ROLE ON PROJECT:

LEGEND:

DRAWING SCALE:	DATE:
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DRAWING TITLE:

SHEET NUMBER: OF