THE ERINDALE ACADEMY

COURSE NAME: MPM2D – Principles of Mathematics	
Unit 1 – System of Linear Equations **Assignment # 1 - Representing Linear Relations (1. 1)** **Teacher: Antonio Pietrangelo** **Time: as needed.** **Pages: 11**	**Student's Name:** **Student#:** **Due Date: Monday, November 4th, 2024 @ 23:59pm (EST)** **Mark: /100**

Categories	Knowledge/ Understanding	Thinking/Inquiry/ Problem Solving	Communication	Application
Symbol	K/U	T/I	C	A
Weight	25 %	25 %	25 %	25 %
Level				

Overall Expectations:

All Overall Expectations as listed in the Ontario Curriculum course outline for your specific course.

Overall Expectations:

1. System of Linear Equations

Specific Expectations:

1.1 Representing Linear Systems.

Rubrics:

Category	Level R (0 – 49%)	Level 1 (50-59%)	Level 2 (60-69%)	Level 3 (70-79%)	Level 4 (80-100%)	Level/ Mark
Knowledge – Understanding of: **(Unit/Section - 1.1)**	demonstrates insufficient understanding	demonstrates limited understanding	demonstrates some understanding	demonstrates considerable understanding	demonstrates thorough understanding	
					Individual: **Assigned:**	_____

Category	Level R (0 – 49%)	Level 1 (50-59%)	Level 2 (60-69%)	Level 3 (70-79%)	Level 4 (80-100%)	Level/ Mark
Thinking and Inquiry (What if scenarios) of **(Unit/Section - 1.1)**	demonstrates insufficient ability to apply different scenarios	demonstrates limited ability to apply different scenarios	demonstrates some ability to apply different scenarios	demonstrates considerable ability to apply different scenarios	demonstrates through ability to apply different scenarios	
					Individual:	_____

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Category	Level R (0 – 49%	Level 1 (50-59%)	Level 2 (60-69%)	Level 3 (70-79%)	Level 4 (80-100%)	Level/ Mark
Communication **Communicates effectively with the use of** **(Unit/Section: 1.1)**	demonstrates **insufficient** ability to communicate effectively	demonstrates **limited** ability to communicate effectively	demonstrates **some** ability to communicate effectively	demonstrates **considerable** ability to communicate effectively	demonstrates **through** ability to communicate effectively	
					Individual:	_____

Category	Level R (0 – 49%	Level 1 (50-59%)	Level 2 (60-69%)	Level 3 (70-79%)	Level 4 (80-100%)	Level/ Mark
Application: Demonstrates the ability to implement the linear relations in plotting or using graphing software: **(Unit/Section - 1.1)**	demonstrates **insufficient ability**	demonstrates **limited ability**	demonstrates **some ability**	demonstrates **considerable ability**	demonstrates **thorough ability**	
					Individual:	____

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PART A: KNOWLEDGE AND UNDERSTANDING (K/U) – 25%

2 Marks Per Question

Instructions:

Question 1: What is the slope of equation y = x

Question 2: What is the slope of equation y = 2x + 1

Question 3: What is the value of x, at the y-intercept.

Question 4: What is the value of y, at the x-intercept.

Question 5: What is the value of the y-intercept in the equation: y = -x + 3

PART B: THINKING AND INQUIRY (T/I) – 25 %

5 Marks Per Question

Question 1: If you plot these points on a graph, is the relationship linear or non-linear?

Value x	Value y	Point (x, y)
-3	-3	(-3, -3)
-2	-2	(-2, -2)
-1	-1	(-1, -1)
0	0	(0,0)
1	1	(1,1)
2	2	(2,2)
3	3	(3,3)

Question 2: If you plot these points on a graph, is the relationship linear or non-linear?

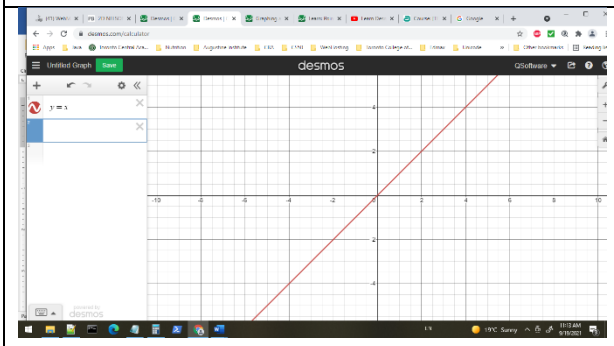
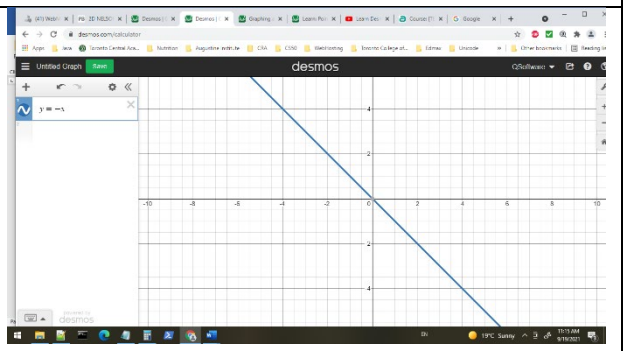
Value x	Value y	Point (x, y)
-3	9	(-3,9)
-2	4	(-2,4)
-1	1	(-1,1)
0	0	(0,0)
1	1	(1,1)
2	4	(2,4)
3	9	(3,9)

PART C: COMMUNICATION (C) – 25%

10 Marks Per Question

Question 1: Explain if the relationships are increasing or decreasing in the two following tables and graphs?

State on which axis is the independent, and dependant variables are usually plotted? In addition state the slopes, the x, y-intercepts for both equations of lines.

Graph 1:	**Graph 2:**
	

Student Response:

PART D: APPLICATION (A) – 25%

10 Marks Per Question

Question 1:

Use the graphing software:
https://www.desmos.com/calculator

plot the following graphs:

1. **y = x**
2. **y = -x**
3. **y = x + 2**
4. **y = 5x – 1**

Answer the following:

What is the slope of each equation, and what is the y – intercept, that is, when x = 0.

Note 1: remember, the general equation of a line is y = mx + b, where m is the slope of the line, and b is the y-intercept.

Note 2: remember, the y-intercept is when x is 0.

Attach graphs below.