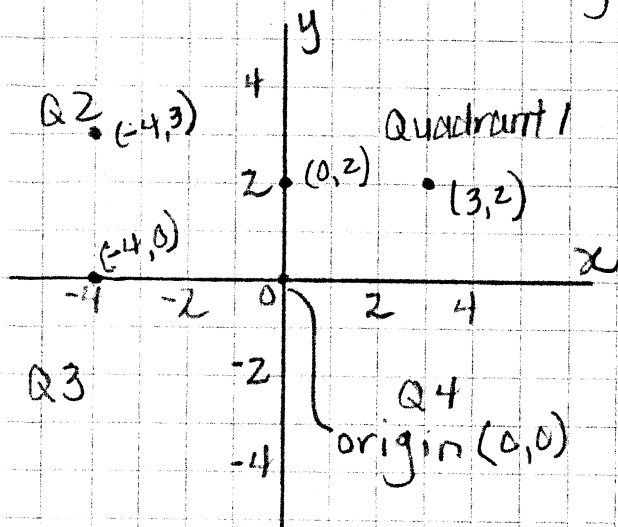


# Intro to Graphing & Relations Review

Oct 3/13

## ① Cartesian Co-ordinate System



## ② Five Ways to Represent a Relation

a) Words  $\rightarrow$  "y" is 2 times "x" minus 1

b) Equation  $\rightarrow y = 2x - 1$

c) Table of values

x	y
-2	-5
0	-1
2	3

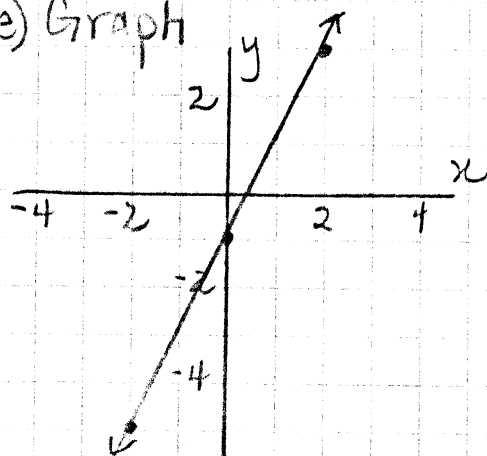
$$\begin{aligned}y &= 2(-2) - 1 \\ &= -4 - 1 \\ &= -5\end{aligned}$$

$$\begin{aligned}y &= 2(0) - 1 \\ &= 0 - 1 \\ &= -1\end{aligned}$$

$$\begin{aligned}y &= 2(2) - 1 \\ &= 4 - 1 \\ &= 3\end{aligned}$$

d) List of Ordered Pairs  $\rightarrow (-2, -5), (0, -1), (2, 3)$

e) Graph



Turn over  $\rightarrow$

③ Completing a Table of Values

$$y = 3x^2 + 1$$

x	y
-2	13
0	1
2	13

$$y = 3(-2)^2 + 1$$

$$= 3(4) + 1$$

$$= 12 + 1$$

$$= 13$$

$$y = 3(0)^2 + 1$$

$$= 3(0) + 1$$

$$= 0 + 1$$

$$= 1$$

$$y = 3(2)^2 + 1$$

$$= 3(4) + 1$$

$$= 12 + 1$$

$$= 13$$

④ Is the relation linear or non-linear?

i) By the equation

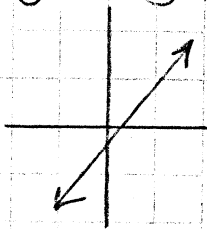
$$y = 3x + 2$$

linear

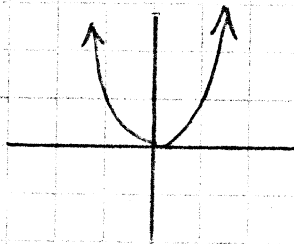
$$y = 3x^2 + 2$$

non-linear

ii) By the graph



linear



non-linear

iii) By the table

x	y	finite Differences	
1	6	} same	
2	8		$8 - 6 = 2$
3	10		$10 - 8 = 2$

linear

x	y	finite differences	
1	6	} different	
2	8		$8 - 6 = 2$
3	11		$11 - 8 = 3$

non-linear