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1) Some of you have had a hard time plotting points (mixing up x-values and y-values), while others are quite comfortable doing this. To make sure we are all on the same page, plot the following 810points on the provided grid:

$A(4,3)$	$B(8,7)$
$C(-4,3)$	$D(-5,9)$
$E(5,-3)$	$F(2,-7)$
$G(-4,-3)$	$H(-8,-2)$
$I(0,9)$	$J(-4,0)$

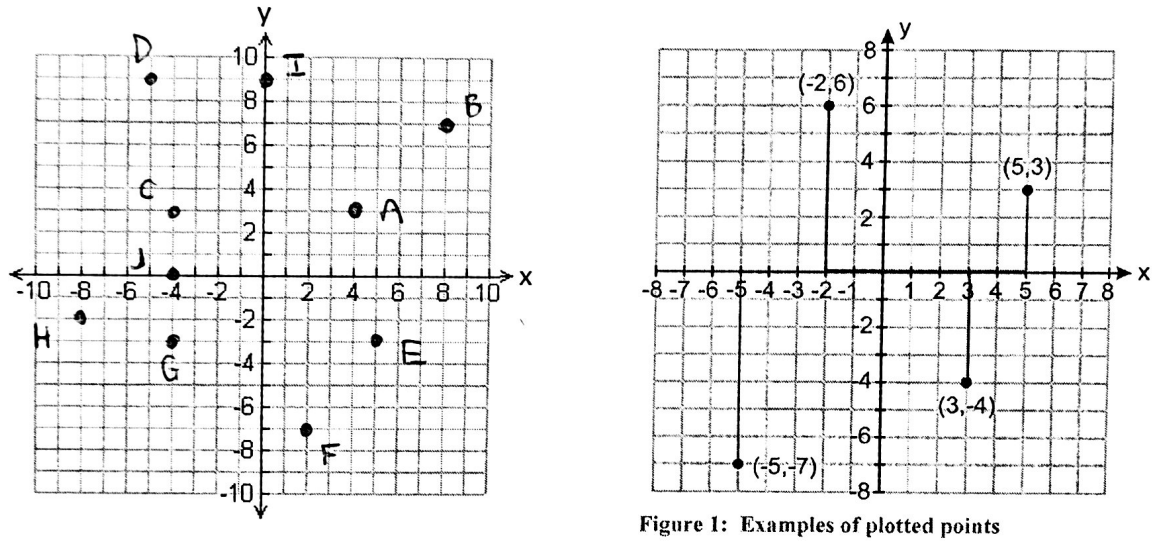


Figure 1: Examples of plotted points

2) We started off our new unit by talking about the concept of slope. Do you remember how slope is defined?

a) Slope is a measure of the steepness of a line

b) Slope is calculated by doing either of the following:

i) Plotting the points and using $m = \frac{\text{rise}}{\text{run}}$

ii) Using a formula $m = \frac{y_2 - y_1}{x_2 - x_1}$

c) Can you draw a line that would have the following slopes?

i) Positive slope

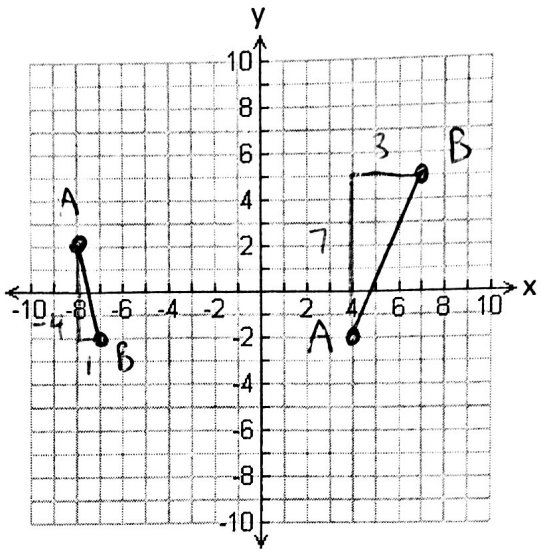
ii) Negative slope

iii) Zero slope

iv) Undefined slope

Examples: Determine the slope of the following line segments by graphing them first.

$A(4,-2)$ and $B(7,5)$		
rise = 7	run = 3	$m = 7/3$
$A(-8,2)$ and $B(-7,-2)$		
rise = -4	run = 1	$m = -4$



Examples: Determine the slope of the following line segments by using $m = \frac{y_2 - y_1}{x_2 - x_1}$.

a) $A(14,9)$ and $B(17,24)$

$x_1\ y_1 \qquad x_2\ y_2$

$$m = \frac{24-9}{17-14}$$

$$= 15/3$$

$$= 5$$

b) $A(0.5,10)$ and $B(2,14.5)$

$x_1\ y_1 \qquad x_2\ y_2$

$$m = \frac{14.5-10}{2-0.5}$$

$$= \frac{4.5}{1.5}$$

$$= 3$$

Lastly, we started identifying slope (m) and y-intercept (b) straight from an equation in $y = mx + b$ form, and using that to make a graph. Can you read off the slope and y-intercept of these lines?

Equation of Line	Slope (m)	y-intercept (b)
$y = 4x + 5$	4	5
$y = \frac{2}{3}x - 1$	$\frac{2}{3}$	-1
$y = 5x + 0$	5	0
$y = -x + 7$	-1	7
$y = 1$	0	1

$y = 0x + 1$

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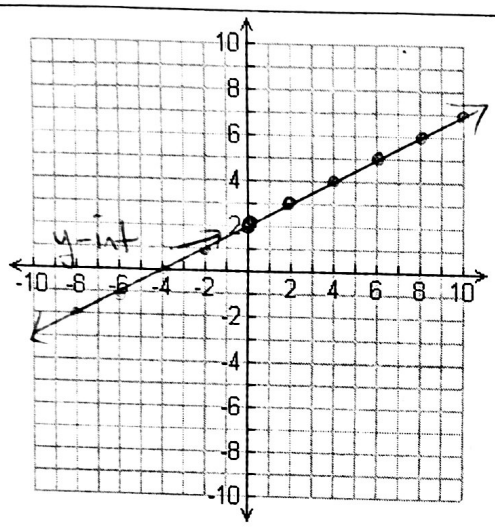
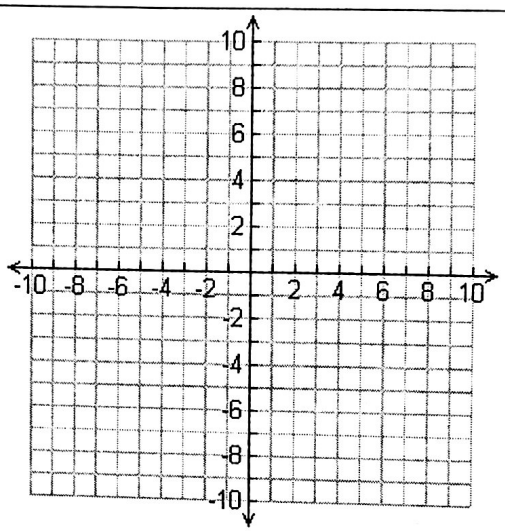
Finally, putting it all together, can you sketch the following lines? When you are done, show Mr. Smith and he can give you today's assignment. Plot the y-intercept, and use the slope to get more points.

a) $y = \frac{1}{2}x + 2$	b) $y = 2x - 7$
Slope (m) = 1/2	Slope (m) =
y-int (b) = 2	y-int (b) =
	
c) $y = -\frac{2}{3}x + 5$	**d) $y = -x + 8$**
Slope (m) =	Slope (m) =
y-int (b) =	y-int (b) =