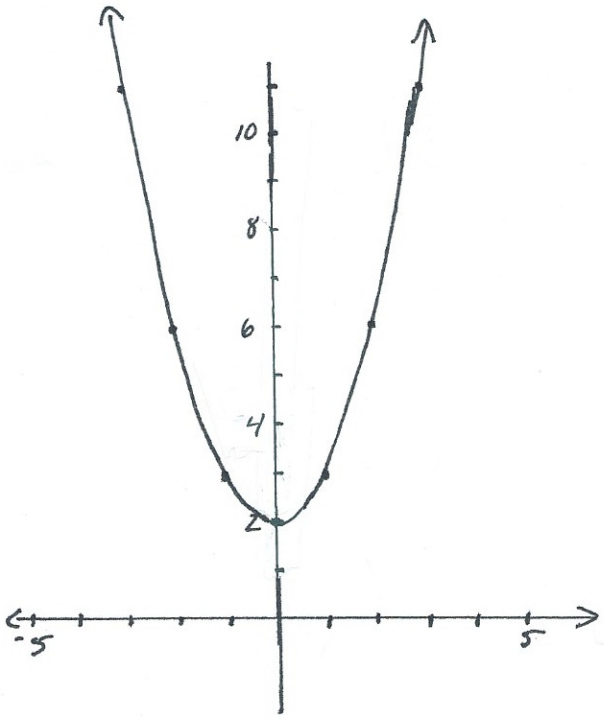
MATH 123
HOMEWORK 2

2.1 #28 $y = x^2 + 2$

x	y
-3	11
-2	6
-1	3
0	2
1	3
2	6
3	11

graph →



2.2 #8 $(-3, 5)$ and $(2, 5)$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{5-5}{2-(-3)} = \frac{0}{5} = 0$$

slope = 0

#18 $4x + 3y = 24$

$3y = 24 - 4x$

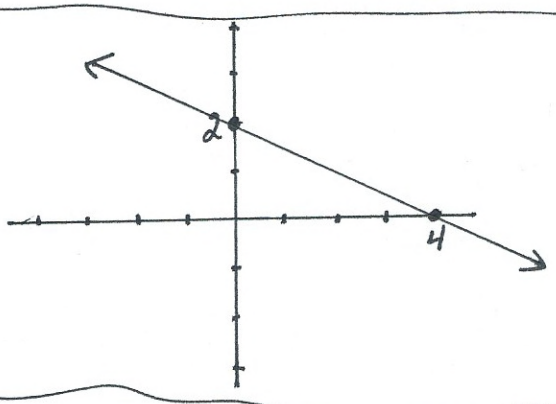
$y = 8 - \frac{4}{3}x$

m = slope $-\frac{4}{3}$

b = y-intercept 8

#28 $2y + x = 4$

graph
label intercepts
→



#38 $2x - y = 6 \longrightarrow -y = 6 - 2x \longrightarrow y = 2x - 6$ $\quad m = 2$

$x - 2y = 4 \longrightarrow -2y = 4 - x \longrightarrow y = -2 + \frac{1}{2}x$ $\quad m = \frac{1}{2}$

NEITHER PARALLEL NOR PERPENDICULAR

2.2 continued

42 Equation of line $m = 4/5$. Through $(-5, -2)$. Put answer in slope intercept form

$$y - y_1 = m(x - x_1)$$
$$y - -2 = \frac{4}{5}(x - -5)$$
$$y + 2 = \frac{4}{5}x + 4$$
$$\boxed{y = \frac{4}{5}x + 2}$$

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48 $(1, 1)$ undefined slope

$$\boxed{x = 1}$$

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50 EQUATION OF LINE THROUGH $(2, 5)$ and $(0, 6)$ (no specific form requested)

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{6 - 5}{0 - 2} = \frac{1}{-2} = -\frac{1}{2}$$

$$y - y_1 = m(x - x_1)$$
$$y - 6 = -\frac{1}{2}(x - 0)$$ ← OK
$$y - 6 = -\frac{1}{2}x$$
$$\boxed{y = -\frac{1}{2}x + 6}$$

could have got this faster by noting that they gave the y-intercept.

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58 LINE THROUGH $(6, 8)$ perpendicular to $y = 2x - 3$

slope is $-\frac{1}{2}$

$$y - 8 = -\frac{1}{2}(x - 6)$$
$$y - 8 = -\frac{1}{2}x + 3$$
$$\boxed{y = -\frac{1}{2}x + 11}$$

ALL GOOD NO SPECIFIC FORMAT REQUESTED