Mrs. Gross

8-3 (p. 410)

Representing Linear Functions

A linear equation makes a line on a graph.

Example 1B

x	$y = 3x - 1$	y
-2	$y = 3 \cdot -2 - 1$	-7
0	$y = 3 \cdot 0 - 1$	-1
2	$y = 3 \cdot 2 - 1$	5
4	$y = 3 \cdot 4 - 1$	11

Example 1C

x	$y = -2x + 5$	y
-2	$y = -2 \cdot -2 + 5$	9
0	$y = -2 \cdot 0 + 5$	5
2	$y = -2 \cdot 2 + 5$	1
4	$y = -2 \cdot 4 + 5$	3

* Read the paragraph on discreet data at the bottom of page 411.

Remember how to multiply with fractions!

x	$y = -\frac{1}{4}x + 5$	y
-2	$y = -\frac{1}{4} \cdot \frac{-2}{1} + 5$	$5\frac{1}{2}$
0	$y = -\frac{1}{4} \cdot 0 + 5$	5
2	$y = -\frac{1}{4} \cdot \frac{2}{1} + 5$	$4\frac{1}{2}$
4	$y = -\frac{1}{4} \cdot \frac{4}{1} + 5$	4

$-\frac{1}{2\cancel{4}} \cdot \frac{-\cancel{2}^{1}}{1} = \frac{1}{2} + 5 = 5\frac{1}{2}$

☺

$-\frac{1}{\cancel{2}4} \cdot \frac{\cancel{2}^{1}}{1} = -\frac{1}{2} + 5 = 4\frac{1}{2}$

$-\frac{1}{\cancel{4}_{1}} \cdot \frac{\cancel{4}^{1}}{1} = -1 + 5 = 4$

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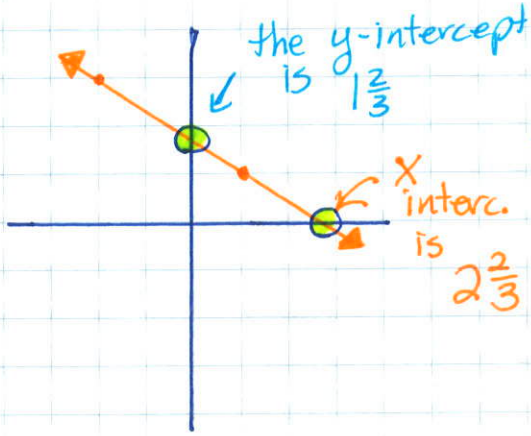


Point of information:

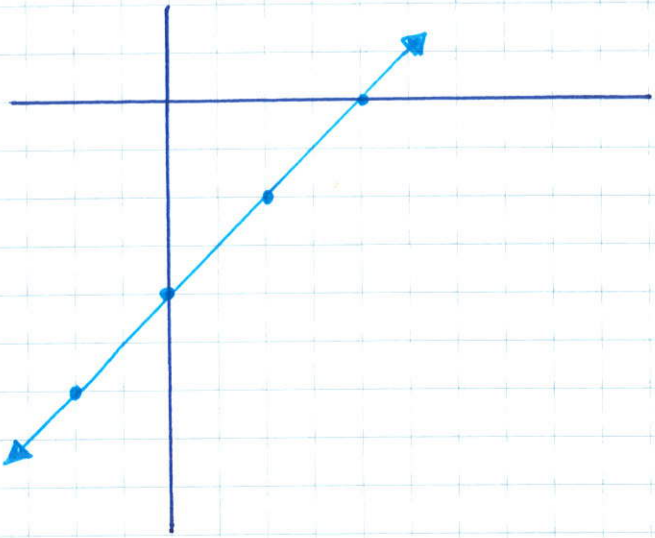
The "x-intercept" is where the line crosses the x-axis.

The "y-intercept" is where the line crosses the y-axis.

p.412 Example 3, 3A

Graphing equations!

x	y = x - 4	y
-2	y = -2 - 4	-6
0	y = 0 - 4	-4
2	y = 2 - 4	-2
4	y = 4 - 4	0



Example 3B

$x + y = 2$ ← change this to y-intercept form

$-x \quad -x$

$y = -x + 2$

x	y = -x + 2	y
-2	y = -(-2) + 2	4
0	y = -0 + 2	2
2	y = -2 + 2	0
4	y = -4 + 2	-2