

BE-1A MONDAY 11-30-09

① SOLVE $x + 2y = 6$ for y

② Use a T-table AND graph
 $y = -\frac{1}{2}x + 3$ (A) if the domain
is $x = \{-2, -1, 0, 1, 2\}$

(B) if $x = \{\text{ALL REAL NUMBERS}\}$

• Q2 EXAM 2 FRIDAY

BE $x + 2y = 6$ for y

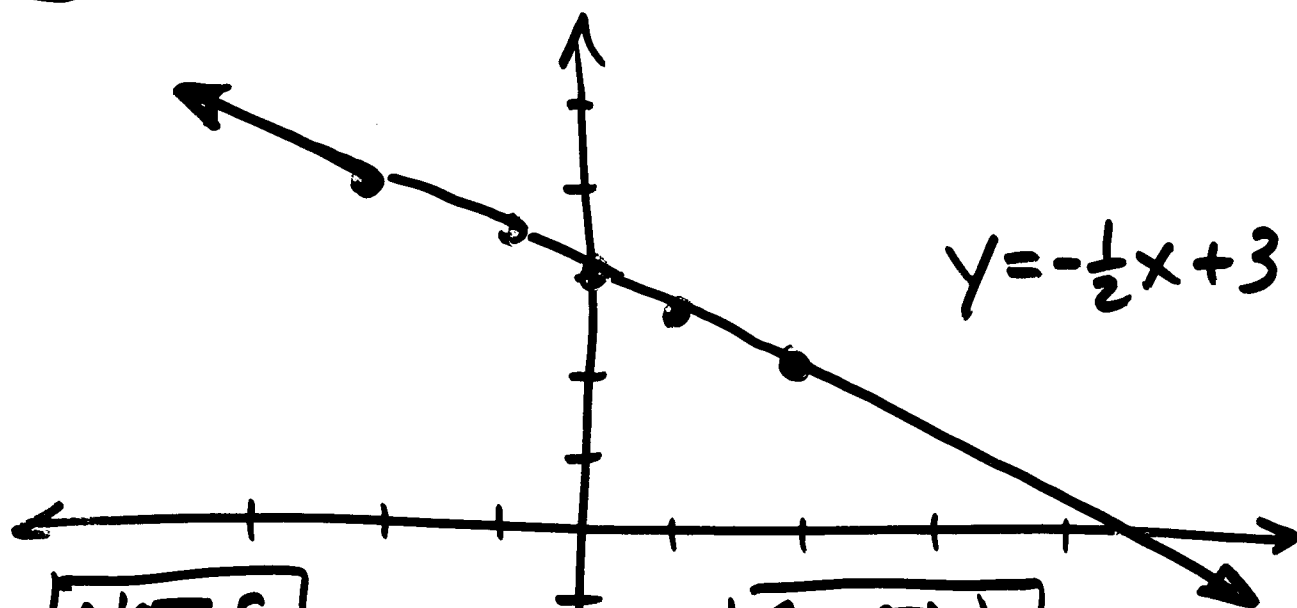
$$\begin{array}{r} -x \\ 2y = \frac{-x + 6}{2} \end{array}$$

$$y = -\frac{1}{2}x + 3$$

x	$y = -\frac{1}{2}x + 3$
-2	$-\frac{1}{2}\left(-\frac{2}{1}\right) + 3 = 4$
-1	$-\frac{1}{2}(-1) + 3 = 3\frac{1}{2}$
0	$-\frac{1}{2}(0) + 3 = 3$
1	$-\frac{1}{2}(1) + 3 = 2\frac{1}{2}$
2	$-\frac{1}{2}\left(\frac{2}{1}\right) + 3 = 2$

(BE)

2.
a



NOTES

⇒ STILL USE
 $x = \{-2, -1, 0, 1, 2\}$
TO FIND LINE

⇒ IF YOU ARE
NOT GIVEN A DOMAIN, ASSUME IT IS ALL REALS.

QUESTION

⇒ HOW DO YOU KNOW
 $y = -\frac{1}{2}x + 3$ IS A LINE?

What would be the difference if
you were ASKED TO graph $y = -\frac{1}{2}x + 3$
AND the domain was:

$x = \{\text{All real numbers}\}$

How do you know an equation that has two variables is a line?
(A relation)

Lets use X, Y for the variables.

As long as the X terms are to the first power $X = X'$ and the Y terms are to the first power $Y = Y'$ and the X and Y terms are only being added or subtracted, the equation will make a line and is called a LINEAR Equation.

Note: it does NOT matter what exponent a number has, it is still a number (a constant)

$$\textcircled{\text{EX}} \quad 2^2 = 4 \quad \textcircled{\text{EX}} \quad \left(\frac{1}{2}\right)^2 = \frac{1}{4}$$

Note: it does NOT matter how many x' or y' terms you have because if they are only being added or subtracted they are "Like" terms and all the x' terms and all the y' terms can be combined.

LINEAR EQUATION or NOT

$$x + 2y = 6 \quad \text{yes}$$

$$x - 2y = 6 \quad \text{yes}$$

$$3x + 4y - 2 = 7x - 3y + 8 \quad \text{yes}$$

$$2x^2 + y = 1 \quad \text{NO}$$

$$\frac{1}{2}x + 3y = -9 \quad \text{yes}$$

$$\frac{x}{y} = 6 \quad \text{NO}$$

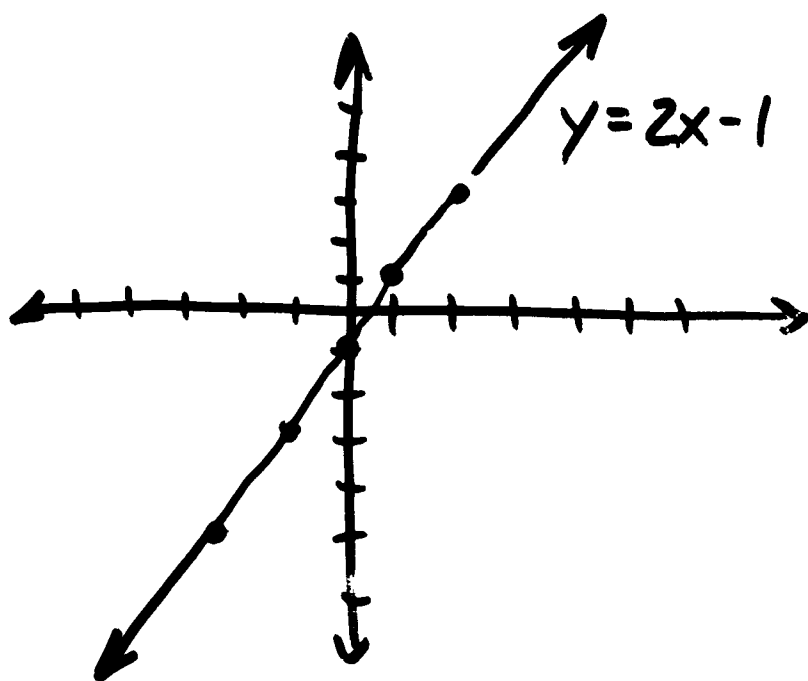
$$x + 2y = 5x + y^3 + 2 \quad \text{NO}$$

$$7xy + 8x + 2y = 6 \quad \text{NO}$$

GRAPH: $y = 2x - 1$

LINEAR Equation, domain is $x = \{\text{all reals}\}$
 choose $x = \{-2, -1, 0, 1, 2\}$ to find line

x	$2x - 1 = y$
-2	$2(-2) - 1 = -5$
-1	$2(-1) - 1 = -3$
0	$2(0) - 1 = -1$
1	$2(1) - 1 = 1$
2	$2(2) - 1 = 3$



Homework: Pg 221 # 28-31