Warm Up

Write the following equation in slope-intercept form.

$$6x - 4y = 15$$

$-6x \quad -6x$

$-4y = -6x + 15$

put x term here

$\frac{-4y}{-4} = \frac{-6x}{-4} + \frac{15}{-4}$

$y = \frac{3}{2}x - \frac{15}{4}$

$$6x - 4y = 15$$

$+4y \quad +4y$

$6x = 15 + 4y$

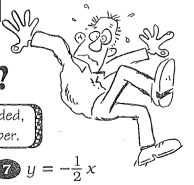
$-15 \quad -15$

$\frac{6x}{4} - \frac{15}{4} = \frac{4y}{4}$

$\frac{3}{2}x - \frac{15}{4} = y$

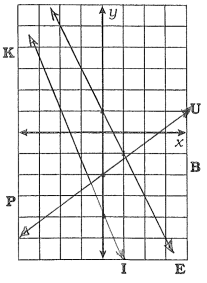
Homework Questions?

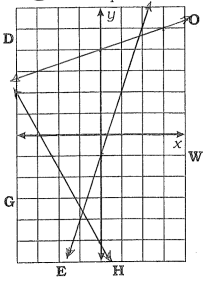
What Happened to the Guy Who Fell Into an Upholstery Machine?

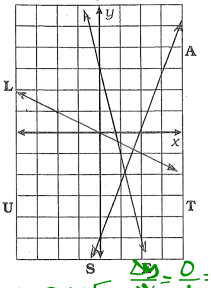


Use the slope and y-intercept to graph each equation. The graph, if extended, will cross a letter. Write this letter in the box containing the exercise number.

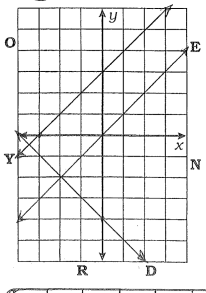
1. $y = \frac{3}{4}x - 2$
2. $y = -2x + 1$
3. $y = -\frac{5}{2}x - 4$
4. $y = \frac{1}{3}x + 4$
5. $y = 3x - 1$
6. $y = -\frac{7}{4}x - 5$
7. $y = -\frac{1}{2}x$
8. $y = -4x + 3$
9. $y = \frac{8}{3}x - 5$



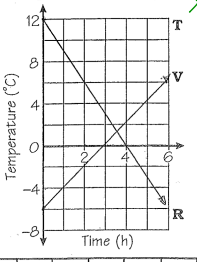




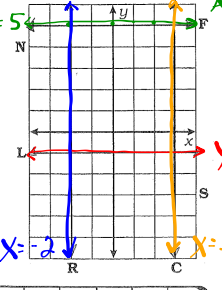
10. $y = x + 3$
11. $y = -x - 4$
12. $y = x$



13. The temperature is −6°C and rising at a rate of 2° per hour.
14. The temperature is 12°C and dropping at a rate of 3° per hour.



15. $y = 5$
16. $x = -2$
17. $y = -1$
18. $x = 3$



6	12	3	9	15	1	17	7	10	14	8	18	4	13	2	16	5	11
H	E	I	S	F	U	L	L	Y	R	E	C	O	V	E	R	E	D

$y = 0x + 5$ $\frac{\Delta y}{\Delta x} = \frac{0}{1} = \frac{0}{-5}$ value of y is always 5

$y = 5$ $y = -1$ $x = -2$ $x = 3$

#13 y = temperature

x = # of hours

$y = 2x - 6$ ← starting temp

↑ rising at 2°/hr

#14 y = temperature

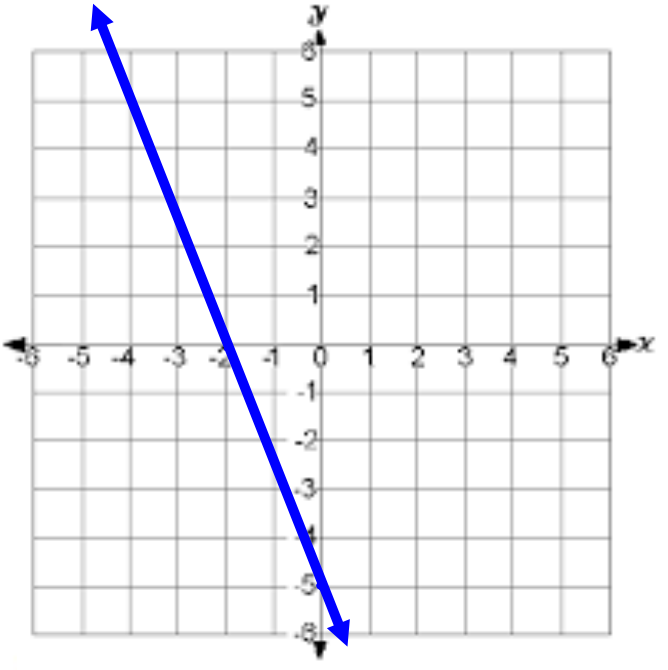
x = # of hours

$y = -3x + 12$ ← starting temp

↑ dropping at a rate of 3°/hr

How to Graph an Equation in Standard Form

Example: $5x + 2y = -10$



Step 1: Find the y-intercept by substituting zero in for x and solving for y.

$5(0) + 2y = -10$

$\frac{2y}{2} = \frac{-10}{2}$

$y = -5$

Step 2: Find the x-intercept by substituting zero in for y and solving for x.

$5x + 2(0) = -10$

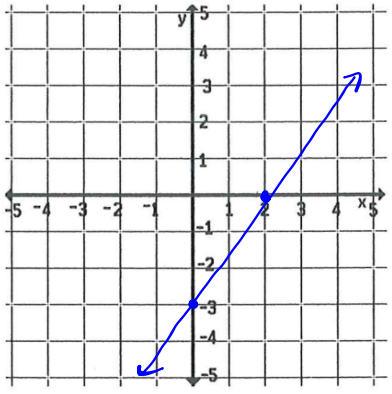
$\frac{5x}{5} = \frac{-10}{5}$

$x = -2$

Step 3: Draw a line **<u>through</u>** both points with a ruler. Don't forget arrows!

Practice Graphing:

$3x - 2y = 6$

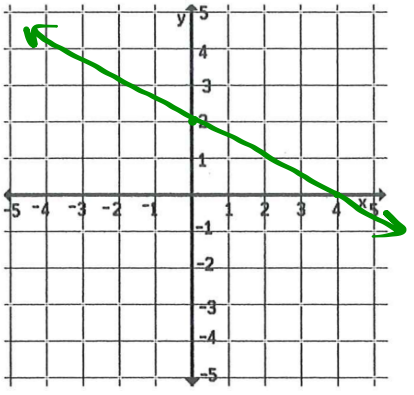


$3(0) - 2y = 6$ $\quad 3x - 2(0) = 6$

$\frac{-2y}{-2} = \frac{6}{-2}$ $\quad \frac{3x}{3} = \frac{6}{3}$

$y = -3$ $\quad x = 2$

$3x + 6y = 12$



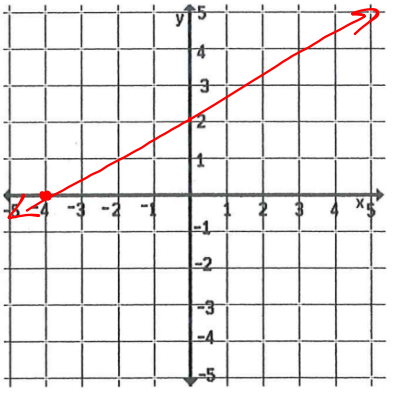
$\square + 6y = 12$

y = 2

$3x + \square = 12$

x = 4

$x - 2y = -4$



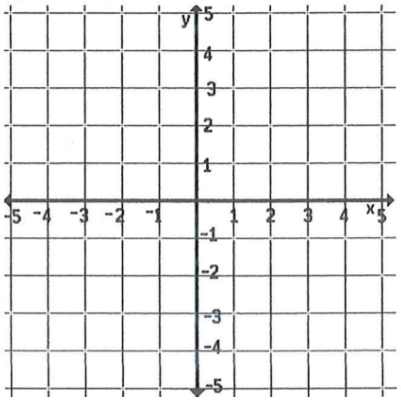
$\square - 2y = -4$

y = 2

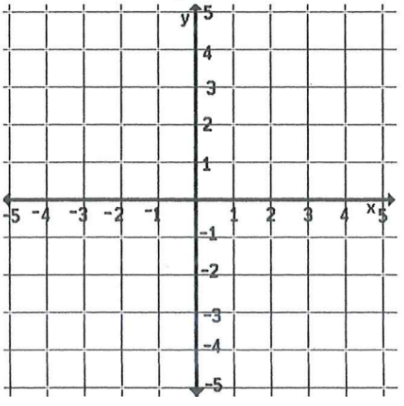
$x \square = -4$

x = – 4

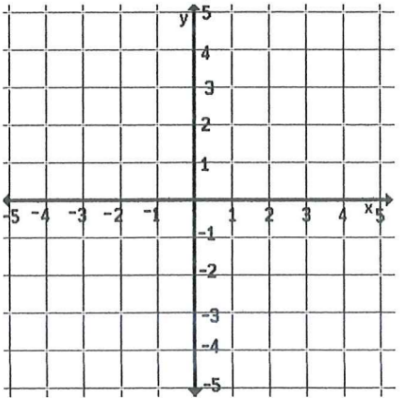
$4x - 3y = 12$



$3x - 5y = -15$



$3x + 2y = 6$



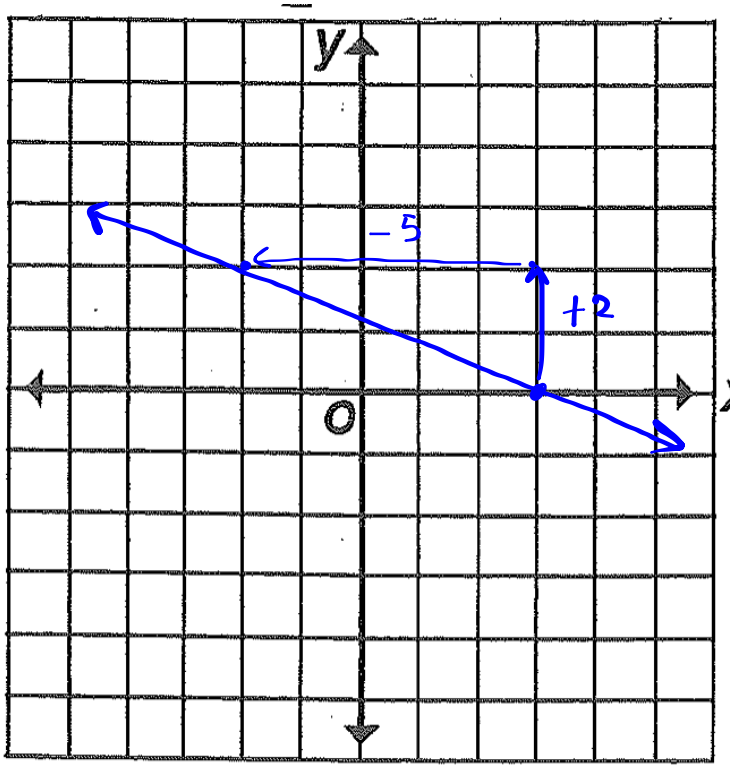
What if you have the following equation?

$$2x + 5y = 6$$

$2x + 5(0) = 6$

$\frac{2x}{2} = \frac{6}{2}$

$x = 3$



How do we find our next point?

$2x + 5y = 6$

$-2x \qquad -2x$

$\frac{5y}{5} = \frac{-2x}{5} + \frac{6}{5}$

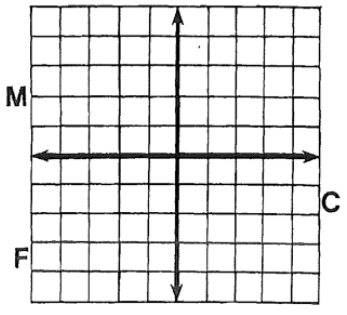
$y = -\frac{2}{5}x + \frac{6}{5}$

$\frac{\Delta y}{\Delta x} = \frac{-2}{5} = \frac{2}{-5}$

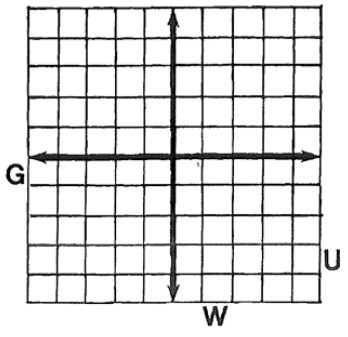
Why Did Miss Muffet Need A Road Map?

Graph any equation below. (Let each space along the axes represent 1 unit.) The graph, if extended, will cross a letter. Look for this letter in the string of letters near the bottom of the page and CROSS IT OUT each time it appears. When you finish, write the letters that have NOT been crossed out in the rectangle at the bottom of the page.

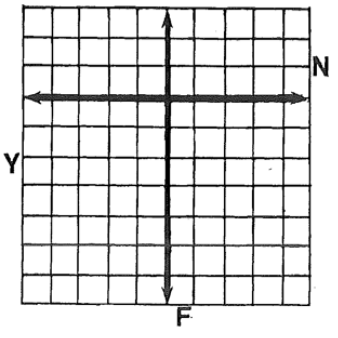
① $2x + 3y = 6$



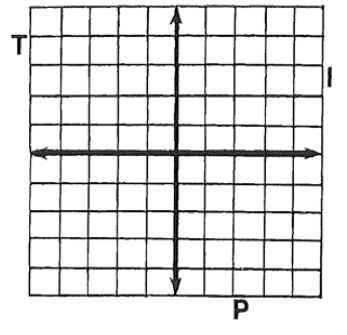
② $^{-}x + 2y = 4$



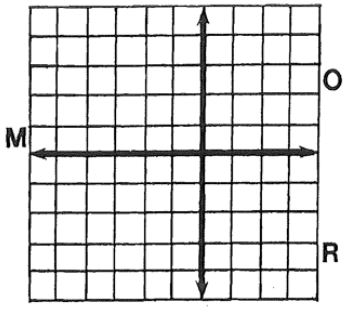
③ $3x + y = {}^{-}6$



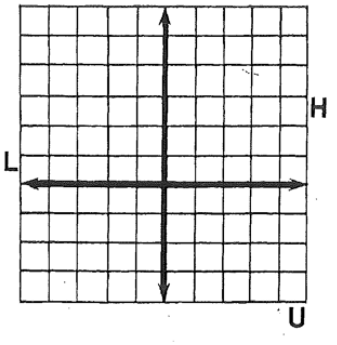
④ $4x - 3y = 12$



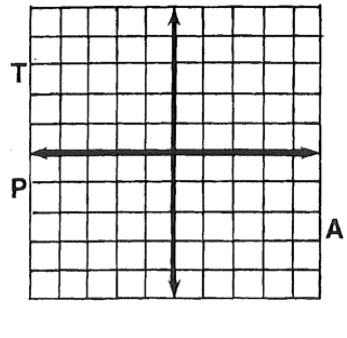
⑤ $^{-}3x - 5y = 15$



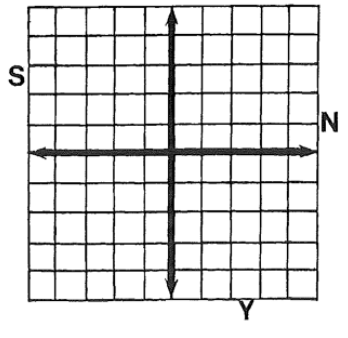
⑥ $2x + y = 5$



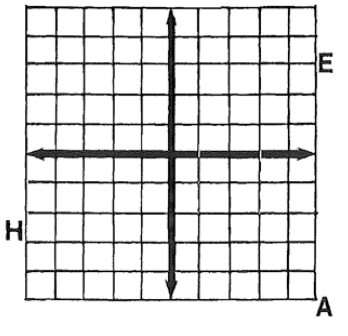
⑦ $x - 2y = {}^{-}3$



⑧ $^{-}3x + 5y = {}^{-}10$



⑨ $x + y = 0$



PUSHAPNELAGONFSANTMCHIMEAPCRAWNGIFPHEANIYUN

ANSWER:

Homework

Finish classwork