Warm Up

9/19

Notebook Check

Check Classroom for Notebook Check assignments.

Homework Questions?

Solving for x with Fractions

① $\frac{2}{3}x - 15 = 65$

$+15 \quad +15$

$3\left[\frac{2}{3}x = 80\right]$

$\frac{2x}{2} = \frac{240}{2}$

$x = 120$

② $5\left[2x = \frac{49}{5}\right]$

$\frac{10x}{10} = \frac{49}{10}$

$x = \frac{49}{10}$

③ $10\left[\frac{9}{10}x = -\frac{11}{10}\right]$

$\frac{9x}{9} = \frac{-11}{9}$

$x = -\frac{11}{9}$

④ $5\left[\frac{12}{5} = \frac{1}{3} + x\right]$

$3\left[12 = \frac{5}{3} + 5x\right]$

$36 = 5 + 15x$

$-5 \quad -5$

$\frac{31}{15} = \frac{15x}{15}$

$x = \frac{31}{15}$

⑤ $7\left[x - \frac{4}{7} = 14\right]$

$7x - 4 = 98$

$+4 \quad +4$

$\frac{7x}{7} = \frac{102}{7}$

$x = \frac{102}{7}$

or $x - \frac{4}{7} = 14$

$+\frac{4}{7} \quad +\frac{4}{7}$

$x = 14\frac{4}{7}$

⑥ $2\left[x - \frac{x-1}{2} = 0\right]$

$2x - x + 1 = 0$

$x + 1 = 0$

$-1 \quad -1$

$x = -1$

⑦ $\frac{1}{3} = x + \frac{4}{3}$

$-\frac{4}{3} \quad -\frac{4}{3}$

$-1 = x$

⑧ $6\left[\frac{1}{2} + \frac{x}{3} = \frac{x}{2}\right]6$

$3 + 2x = 3x$

$-2x \quad -2x$

$3 = x$

⑨ $x - \frac{3}{9} = 15$

$3\left[x - \frac{1}{3} = 15\right]$

$3x - 1 = 45$

$+1 \quad +1$

$\frac{3x}{3} = \frac{46}{3}$

$x = \frac{46}{3}$

⑩ $3\left[\frac{2x-1}{3} + 3 = x\right]$

$2x - 1 + 9 = 3x$

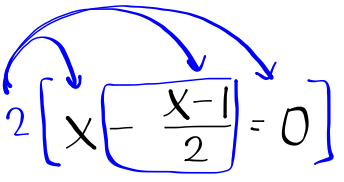
$2x + 8 = 3x$

$-2x \quad -2x$

$8 = x$

Homework Questions?

#6



$$2\left[x - \frac{x-1}{2} = 0\right]$$

$$2x - (x-1) = 0$$

$$2x - \frac{(2x-2)}{2} = 0$$

$$2x - (x-1) = 0$$

$$2x - x + 1 = 0$$

$$x + 1 = 0$$

$$-1 \quad -1$$

$$x = -1$$

Other ways to look at why/how multiplying by 2 "clears the denominator:

$$\frac{2}{1}\left[\frac{(x-1)}{2}\right] = \frac{2x-2}{2} = x-1$$

$$2\left[\frac{\text{☺}}{2}\right] = \text{☺}$$

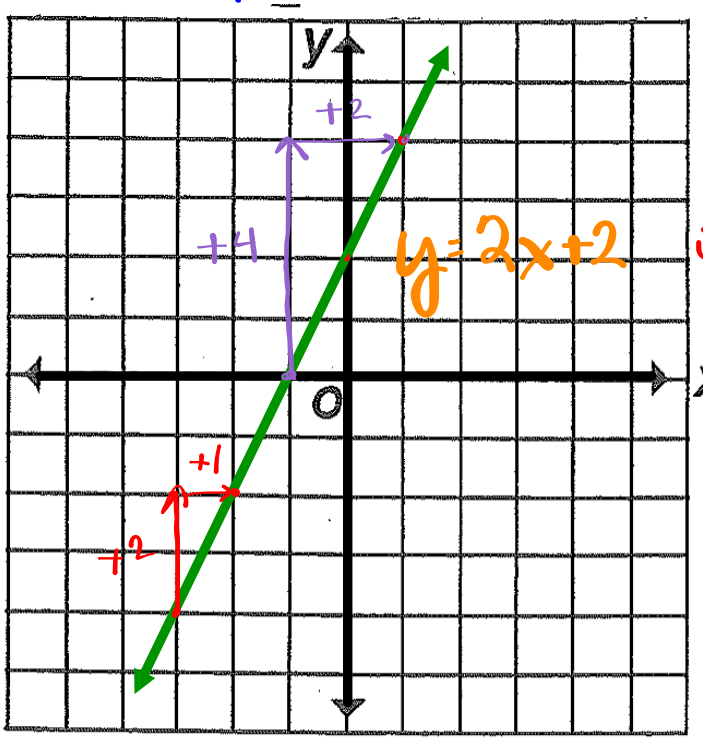
in this case ☺ equals (x – 1)

Equations from a Graph

slope

$y = mx + b$

y-int

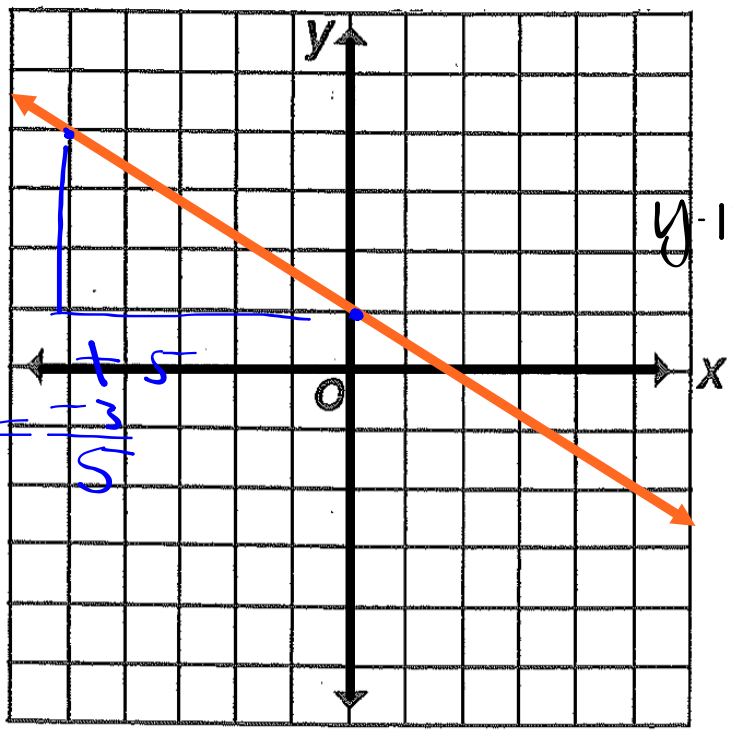


Slope $= \frac{\Delta y}{\Delta x} = \frac{2}{1} = 2$

y-int: (0, 2)

Slope is the same between any 2 points on a line!

Slope $= \frac{\Delta y}{\Delta x} = \frac{4}{2} = 2$



$y = mx + b$

y-int (0, 1)

-3

$+5$

$\frac{\Delta y}{\Delta x} = \frac{-3}{5}$

$y = \frac{-3}{5}x + 1$

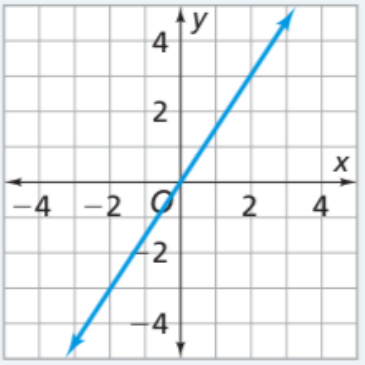
Problem 2.2

Complete 2.2 A-B

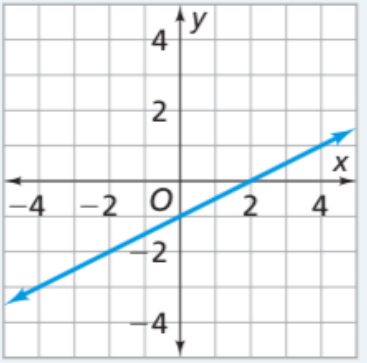
Use the data given in each question to find the equation of the linear function relating y and x.

A For the functions with the graphs below, find the slope and y-intercept. Then write the equations for the lines in the form $y = mx + b$.

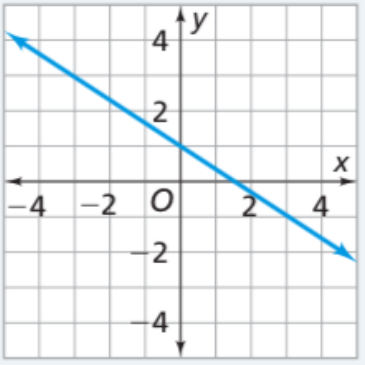
1.



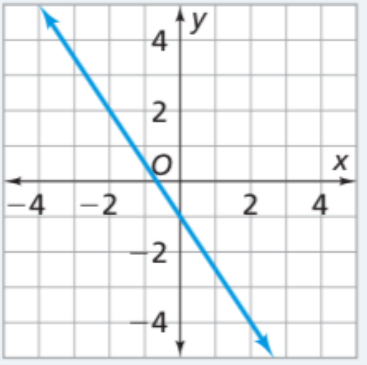
2.



3.



4.



Remember: y-int is the value of y when x = 0

B **1.** Find equations for the linear functions that give these tables. Write them in the form $y = mx + b$.

a.

x	−2	−1	0	1	2
y	−1	1	3	5	7

b.

x	−6	−2	2	6	10
y	−4	−2	0	2	4

2. For each table, find the unit rate of change of y compared to x.

3. Does the line represented by this table have a slope that is greater than or less than the equations you found in part 1(a) and part 1(b)?

x	−1	0	1	2	3
y	4	1	−2	−5	−8

Homework

Finish classwork