Warm Up October 30, 2018

1.) Solve the inequality and name three solutions:

$-2x + 7 < 17$

$-7 \quad -7$

$-2x < 10$

$\frac{-2x}{-2} < \frac{10}{-2}$

$x > -5$

$-4, -3, -2, \ldots$

2.) Find the slope: (-2, 4) and (-6, 9).

$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{9-4}{-6-(-2)} = \frac{5}{-4}$

3.) Twice a number added to four is the same as one subtracted from the number. What is the number?

$2 \cdot x + 4 = x - 1$

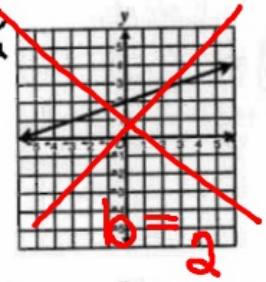
$-x \quad -x$

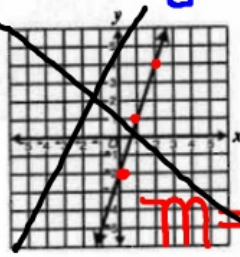
$x + 4 = -1$

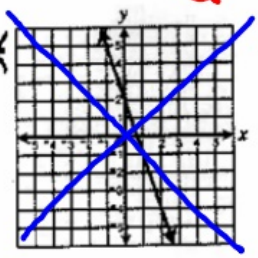
$-4 \quad -4$

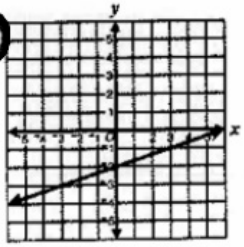
$x = -5$

13 Which graph represents the line $y = \frac{1}{3}x - 2$?

A. 

C. 

B. 

D. 

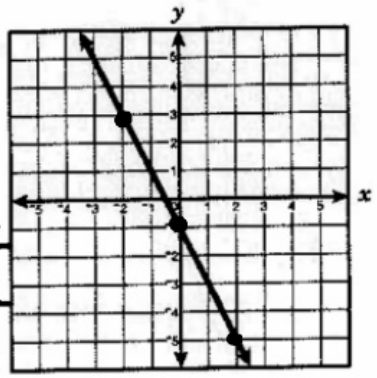
pos.

$m = 3$

$b = 2$

neg. slope

14 Which best represents the equation of the line?



$m = \frac{-4}{2}$

$m = -2$

~~A. $y = 2x - 1$~~

C. $y = -2x - 1$

~~B. $y = \frac{1}{2}x - 1$~~

~~D. $y = \frac{-1}{2}x - 1$~~

Write the equation of the table below.

X	3	6	9	12	15	18	21
Y	4	6	8	10	12	14	16

+3 +3 +3 +3 +3 +3

+2 +2 +2 +2 +2 +2

Unfortunatley, the y-intecept cannot always be found by looking at the table.

$m = \frac{2}{3}$

$b = 2$

Option #1: Work Backwards

Fill in the table for x = 0

X	0	3	6	9	12	15	18	21
Y	2	4	6	8.	10	12	14	16

+3 +3

+2 +2

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

Option #2: Use the Point-Slope Formula

Main Ideas/Questions	Notes/Examples
WRITING LINEAR EQUATIONS (Given a Point and Slope)	To write the equation of the line passing through point (x_1, y_1) with slope (m), you can use the point-slope formula: **Point-Slope Formula:** $y - y_1 = m(x - x_1)$ *Be sure to distribute and solve for y!*

For tables without x = 0

X	3	6	9	12	15	18	21
Y	4	6	8	10	12	14	16

$m = \frac{2}{3}$; $(9, 8)$ x_1, y_1

$y - y_1 = m(x - x_1)$

$y - 8 = \frac{2}{3}(x - 9)$

$y - 8 = \frac{2}{3}x - 6$

$+8 \qquad +8$

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

Writing an equation given a point and the slope.

1. (4, 1); slope = 2

$x_1\ y_1\ m$

$y - y_1 = m(x - x_1)$

$y - 1 = 2(x - 4)$

$y - 1 = 2x - 8$

$+1 \qquad +1$

$y = 2x - 7$

2. (2, 4); slope = $\frac{1}{2}$

$x_1\ y_1\ m$

$y - 4 = \frac{1}{2}(x - 2)$

$y - 4 = \frac{1}{2}x - 1$

$+4 \qquad +4$

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

3. (-6, 0); slope = $\frac{2}{3}$

$x_1\ y_1\ m$

$y - 0 = \frac{2}{3}(x - (-6))$

$y = \frac{2}{3}x + 4$

4. (-8, -1); slope = $-\frac{3}{4}$

$x_1\ y_1\ m$

$y - (-1) = -\frac{3}{4}(x - (-8))$

$y + 1 = -\frac{3}{4}x - 6$

$-1 \qquad -1$

$y = -3/4x - 7$

Warm Up November 1, 2018

1.) If x is an integer, what is the minimum value of x that satisfies the inequality?

$$-7(x - 2) + 1 < x$$

2.) Arianna went to Marshall's and purchased a shirt for $21.75 and socks for $3.99. If tax was 7.5%, what was her total bill?

3.) Identify the slope and y-intercept :

$2y + 5x = 16.$

What if you are given two points?

To write a linear equation given two points, (x_1, y_1) and (x_2, y_2), follow this process:

Use the Slope Formula → **Use the Point-Slope Formula**

7. (-3, 7) and (1, -1)

8. (-6, -7) and (3, -4)

9. (2, -1) and (4, -6)	**10.** (-3, -8) and (2, 7)