Do Now

1) Write the equation of the line that passes through the points (0,3) and (-2, -1).

$x_1 \; y_1 \qquad x_2 \; y_2$

$m = \frac{y_2 - y_1}{x_2 - x_1}$

$m = \frac{-1-3}{-2-0} = \frac{-4}{-2}$

$m = 2$

$y = mx + b$

$3 = 2(0) + b$

$3 = 0 + b$

$3 = b$

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

2) Write the equation of the line that has a slope of -3 and passes through the point (6, -12)

$y = mx + b$

$-12 = -3(6) + b$

$-12 = \cancel{-}18 + b$

$+18 \qquad \cancel{+18}$

$6 = b$

$\boxed{y = -3x + 6}$

Dec 7-11:33 AM

Homework Answers

1) $m = 1$

$b = 5$

$y = x + 5$

2) $m = -2$

$b = -9$

$y = -2x - 9$

3) $m = UND$

$x = 5$

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

$b = -2$

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

Nov 13-6:58 AM

Writing Linear Equations from a Table of Values

- Choose any two points from the table of values
- Find the SLOPE of the line (using the formula) $m = \frac{y_1 - y_2}{x_1 - x_2}$ OR $m = \frac{y_2 - y_1}{x_2 - x_1}$
- Substitute the slope for *m* in y = *m*x + b
- Substitute ANY point (x,y) into the equation and solve for b
- Write the final answer substituting m & b into y=mx+b

Feb 23-8:39 AM

Write the equation of the line represented by the table of values

x	-1	0	1	2	3
y	4	5	6	7	8

(1, 6) (0, 5)

x_1 y_1 x_2 y_2

$m = \frac{y_2 - y_1}{x_2 - x_1}$

$m = \frac{5-6}{0-1} = \frac{-1}{-1} = 1$

$y = mx + b$ (1,6)

$6 = 1(1) + b$

$6 = 1 + b$

$-1 \quad -1$

$5 = b$

$\boxed{y = x + 5}$

Dec 7-11:33 AM

Write the equation of the line represented by the table of values

X	-2	-1	0	1	2
Y	-6	-3	0	3	6

$(0,0)$ $(1,3)$

x_1 y_1 x_2 y_2

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$m = \frac{3-0}{1-0} = \frac{3}{1} = 3$$

$(1,3)$

$y = mx + b$

$3 = 3(1) + b$

$3 = \cancel{3} + b$

$-3 \quad -3$

$0 = b$

$$\boxed{y = 3x}$$

Dec 7-11:34 AM

Write the equation of the line represented by the table of values

X	0	1	2	3	4
Y	4	6	8	10	12

$(0,4)$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$m = \frac{6-4}{1-0} = \frac{2}{1} = 2$$

$y = mx + b$

$4 = 2(0) + b$

$4 = 0 + b$

$4 = b$

$$\boxed{y = 2x + 4}$$

Dec 7-11:38 AM

Write the equation of the line represented by the table of values

X	2	3	4	5	6
Y	7	11	15	19	23

$(2,7)$ $(3,11)$

$x_1\ y_1$ $x_2\ y_2$

$\boxed{y=4x-1}$

$$\frac{y_2-y_1}{x_2-x_1}=\frac{11-7}{3-2}=\frac{4}{1}=4=m$$

$(2,7)$

$y=mx+b$

$7=4(2)+b$ $b=-1$

$7=8+b$

$-8\ \ -8$

Dec 7-11:38 AM