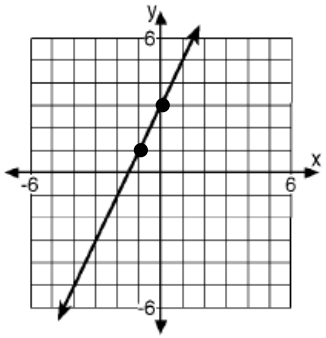
Do Now

1) Write the equation of the line in the following graph



$y = 2x + 3$

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

$y = mx + b$

$6 = -3(3) + b$

$6 = -9 + b$

$+9 \quad +9$

$15 = b$

$y = -3x + 15$

Jan 6-9:06 AM

Homework Answers

1) $y = 3x - 10$

2) $y = -2x + 3$

8) $y = -x - 6$

4) $y = \frac{-3}{5}x - 6$

5) $y = \frac{1}{4}x + 8$

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

7) $y = \frac{5}{6}x - 11$

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

9) $y = 4x - 3$

10) $y = \frac{1}{2}x + 2$

11) $y = \frac{2}{7}x - 6$

12) $y = \frac{-5}{2}x - 2$

13) $y = x$

14) $y = 4x - 6$

15) $y = \frac{3}{4}x + 1$

16) $y = -3x + 8$

17) $y = -x$

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

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

20) $y = -\frac{1}{4}x + 7$

21) $y = 8$

22) $y = 2x + 9$

23) $y = 5x - 10$

24) $y = \frac{5}{3}x + 4$

25) $y = -3x - 3$

26) $y = \frac{-6}{5}x - 5$

Dec 5-7:02 AM

Writing Equations from Two Points

- Find the SLOPE of the line (using the formula) FIRST!

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

- Substitute the slope for *m* in y = *m*x + *b*
- Substitute EITHER point (x,y) into the equation and solve for b
- Use m and b to write the slope-intercept form of the equation

Feb 23-8:39 AM

Find the equation of the line that passes through (-1,3) and (2,6)

x_1, y_1 x_2, y_2

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

$m = \frac{6 - 3}{2 - -1}$

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

$y = mx + b$

$6 = (1)(2) + b$

$6 = 2 + b$

$-2 \quad -2$

$4 = b$

$y = mx + b$

$y = 1x + 4$

or

$y = x + 4$

Feb 23-8:42 AM

Write the equation of the lines that go through the given points:

1) (2, -1) and (4,3)

$x_1\ y_1$ $x_2\ y_2$

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

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

$y = mx + b$

$3 = 2(4) + b$

$3 = 8 + b$

$-8 \quad -8$

$-5 = b$

$y = 2x - 5$

Feb 23-8:38 AM

Write the equation of the lines that go through the given points:

2) (5,1) and (3,-5)

$x_1\ y_1$ $x_2\ y_2$

$\frac{y_2 - y_1}{x_2 - x_1} = \frac{-5-1}{3-5} = \frac{-6}{-2} = 3$ (m)

$y = mx + b$

$1 = 3(5) + b$

$1 = 15 + b$

$-15 \quad -15$

-14

$y = 3x - 14$

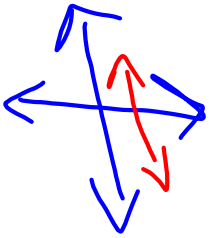
Feb 23-8:38 AM

Write the equation of the lines that go through the given points:

3) (4, 6) and (4,3)

$m = \frac{6-3}{4-4} = \frac{3}{0}$

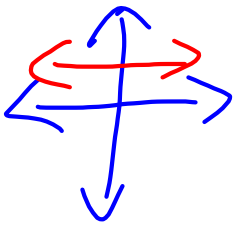
Undefined



$x = 4$

4) (-2, 8) and (5,8)

$m = \frac{8-8}{-2-5} = \frac{0}{-7} = 0$



$y = 8$

Feb 23-8:38 AM