Today is 11/2/17

Get out note packet and a calculator

Goal: Write an equation in point slope form for a line given specific information

Agenda:	No Homework
Go Over HW	Quiz Tomorrow on Graphing and writing equations
My Favorite No	
p. 21 & 22	

HW Answers

1. $y = -3/4x + 4$
2. $y = -3/4x$
3. $y = 3x + 2$
4. $y = 5/3x + 3$
5. $y = x + 4$
6. $y = 4x - 1$
7. $y = 3x - 1$
8. $y = 2x + 12$
9. $y = 7x - 5$
10. $y = -x + 2$
11. $y = -4x - 3$
12. $y = 5/3x$

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Example **Write an equation of the line that passes through (1, 2) and (3, −2).**

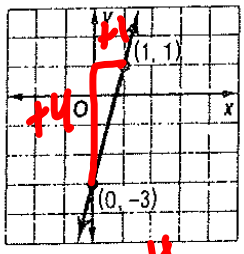
Find the slope m. To find the y-intercept, replace m with its computed value and (x, y) with (1, 2) in the slope-intercept form. Then solve for b.

$m = \frac{y_2 - y_1}{x_2 - x_1}$	Slope formula
$m = \frac{-2 - 2}{3 - 1}$	$y_2 = -2$, $y_1 = 2$, $x_2 = 3$, $x_1 = 1$
$m = -2$	Simplify.
$y = mx + b$	Slope-intercept form
$2 = -2(1) + b$	Replace m with -2, y with 2, and x with 1.
$2 = -2 + b$	Multiply.
$4 = b$	Add 2 to each side.

Therefore, the equation is $y = -2x + 4$.

Write an equation of the line that passes through each pair of points.

1.

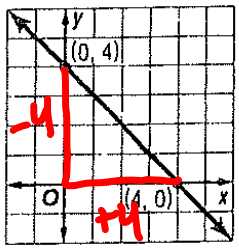


$m = \frac{4}{1}$

$b = -3$

$y = 4x - 3$

2.

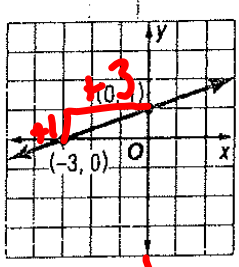


$m = \frac{-4}{4} = -1$

$b = 4$

$y = -x + 4$

3.



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

$b = 1$

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

4. $(-1, 6), (7, -10)$

$m = \frac{-10-6}{7--1} = \frac{-16}{8} = -2$

$y = mx + b$

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

$6 = 2 + b$

$-2 \quad -2$

$4 = b$

$y = -2x + 4$

5. $(0, 2), (1, 7)$

6. $(6, -25), (-1, 3)$

$m = \frac{3--25}{-1-6} = \frac{28}{-7} = -4$

$y = mx + b$

$3 = -4(-1) + b$

$3 = 4 + b$

$-4 \quad -4$

$-1 = b$

$y = -4x - 1$

7. $(-2, -1), (2, 11)$

$m = \frac{11--1}{2--2} = \frac{12}{4} = 3$

$y = mx + b$

$-1 = 3(-2) + b$

$-1 = -6 + b$

$+6 \quad +6$

$5 = b$

$y = 3x + 5$

8. $(10, -1), (4, 2)$

9. $(-14, -2), (7, 7)$

10. Write an equation of a line that passes through the x-intercept 4 and y-intercept -2.

$\frac{-2-0}{0-4} = \frac{-2}{-4} = \frac{1}{2}$ (4, 0) (0, -2) b

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

11. Write an equation of a line that passes through the x-intercept -3 and y-intercept 5.

$\frac{5-0}{0-3} = \frac{5}{3}$ (-3, 0) (0, 5) b

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

2. Write an equation of a line that passes through (0, 16) and (−10, 0).