Announcements:

. Skills Test over Equations - Friday, 10/21

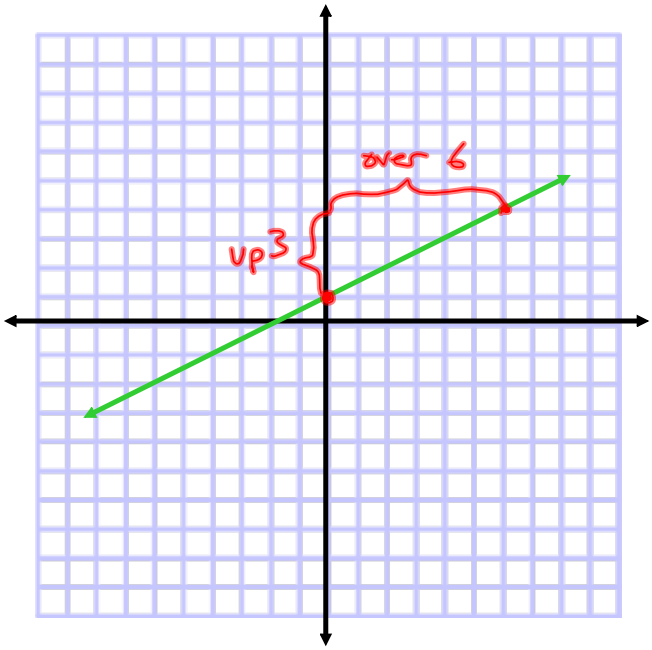
. Unit Test (Ch. 4 & 5 & 6.7) - Thursday, 10/27

. Last day of the quarter is Thursday, 11/10

. Last day for make-up work (excused!) is Monday, 11/14

Writing an Equation from a Graph:

Manual method...



Visually identify the y-intercept

$(0,1)$ $b=1$

Count the rise and run and reduce

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

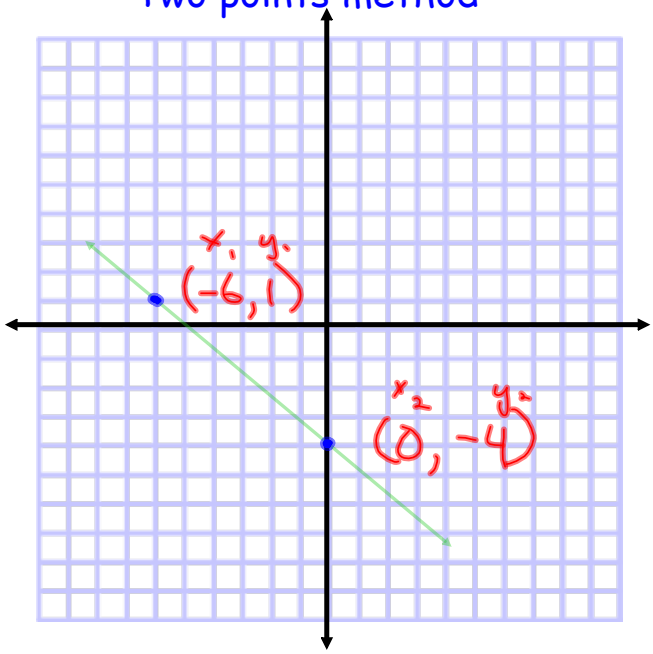
Write the equation

$y = mx + b$

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

Writing an Equation from a Graph

Two points method



Calculate the slope using the slope formula $m = \frac{(y_2 - y_1)}{(x_2 - x_1)}$

$\frac{-4+1}{0+6} = \frac{-5}{6}$

Use the graph to determine the y-intercept of the line $b = -4$

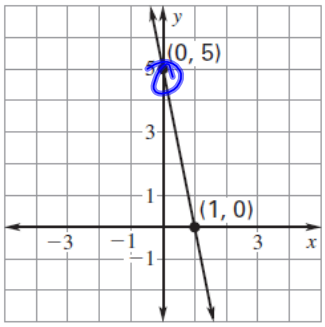
Using the slope-intercept form of the equation of a line, substitute in the slope and y-intercept you found

$y = mx + b$

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

Write an equation of the line shown.

4.

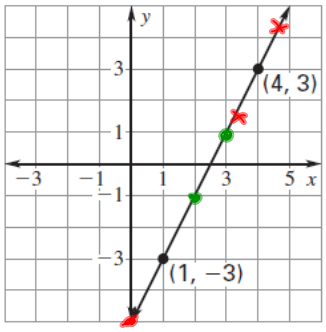


$b = 5$

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

$y = -5x + 5$

5.

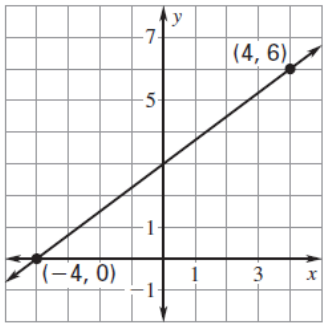


$m = \frac{2}{1} = 2$

$b = -5$

$y = 2x - 5$

6.



$m = \frac{6}{8} = \frac{3}{4}$

$b = 3$

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

Write an equation of the line that passes through the given points.

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

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

$= \frac{-2 + 0}{0 + 1}$

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

$= -2$

$y = (-2)x - 2$

8. $(0, 4), (6, 13)$

$\frac{4 + 13}{0 + 6} = \frac{-9}{-6} = \frac{3}{2}$

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

Write an equation for the linear function f with the given values.

13. $f(0) = -1, f(3) = -10$ (0,-1) (3,-10)

14. $f(-4) = 5, f(0) = 2$

15. $f(-4) = -2, f(0) = 7$

$f(x)$ means y

$f(0)$ means $x=0$

$f(3)$ means $x=3$

$f(-4) = 5$

x y

(1) $(-4,5)$ (2) $(0,2)$

$\frac{2-5}{0-4} = \frac{-3}{4}$

$f(x) = \frac{-3}{4}x + 2$

$f(x) = mx + b$

Laser Printer A laser printer has a "sleep" mode that is an energy-saving feature. When a job is sent to the printer, it takes 45 seconds for the printer to warm up and then the printer prints pages at a rate of 6 pages per minute.

a. Write the time it takes the printer to warm up in minutes.

b. Write an equation that gives the total amount of time (in minutes) it takes the printer to warm up and print a job as a function of the number of pages in the job.

c. Find out how long it takes the printer to print a 50-page job if it must first warm up.

Homework:

p. 286, 4-28 (even), 45, 46