

Warm-Up

Simplify:

$$1) \underline{a^2} + \underline{ab^4} - 3a^2 + \underline{6ab^4} - 4ab^2$$
$$-2a^2 + 7ab^4 - 4ab^2$$

$$2) \frac{a^5}{a^3} = a^{5-3} = a^2$$

$$3) (a^3)^2 = a^3 \cdot a^3 = a^6$$

$$(a^3)^2 = a^{3 \cdot 2} = a^6$$

$$4) a^3 \cdot a^4 = a^{3+4} = a^7$$

Graphing & Slope Review

Example 0: Draw an example of a line with:

a) positive slope.

b) negative slope.

c) zero slope.

d) undefined slope.



Example 1: Graph the following lines.

a) $y = -\frac{2}{3}x + 5$

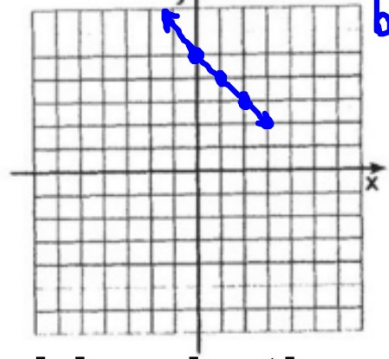
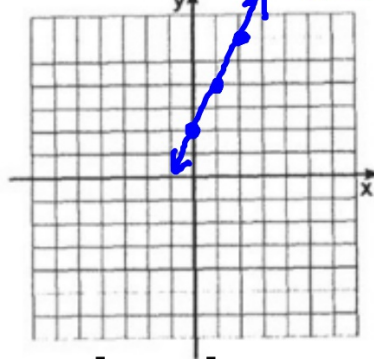
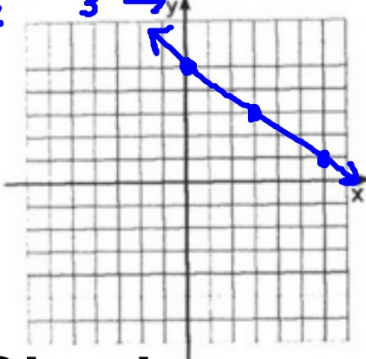
b) $y = 2x + 2$

$m = \frac{2}{1}$ ↑
 $b = 2$ →

c) $y = 5 - x$

$y = -x + 5$
 $m = -\frac{1}{1}$ ↓
 $b = 5$ →

$m = \frac{\Delta y}{\Delta x} = -\frac{2}{3}$ ↓
 $b = 5$ →

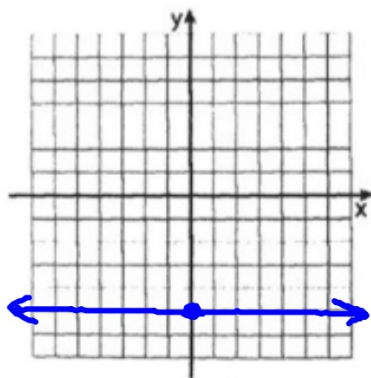


***Check your graphs, by graphing in the calculator. Go to the y= screen and type in the equation in $y=mx+b$ form.**

Example 2: Graph the following lines.

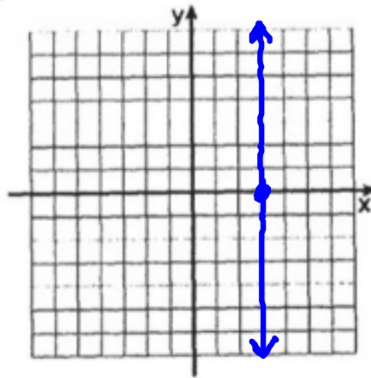
a) $y = -5$

HØY



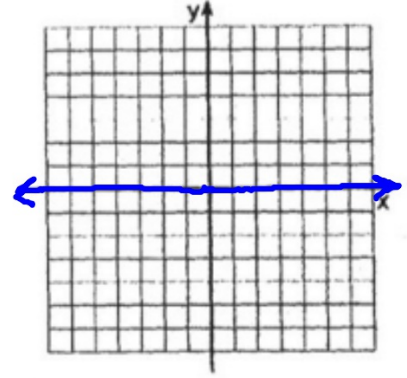
b) $x = 3$

VUX



c) $y = 0$

HØY



***Check your graphs, by graphing in the calculator. Go to the $y=$ screen and type in the equation in $y=mx+b$ form.**

Example 3: Graph each equation using intercepts.

a) $5x - 2y = 10$

x-int., let $y=0$

$$5x - 2y = 10$$

$$5x - 2(0) = 10$$

$$5x = 10$$

$$x = 2$$

$(2, 0)$

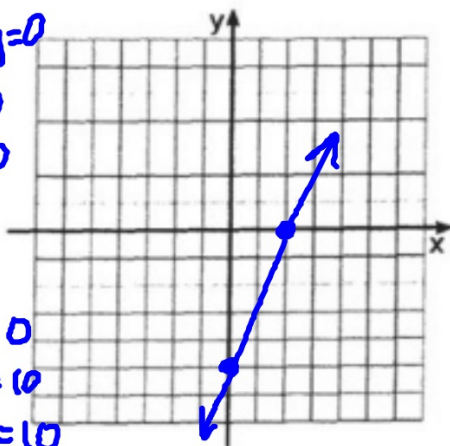
y-int., let $x=0$

$$5x - 2y = 10$$

$$5(0) - 2y = 10$$

$$-2y = 10$$

$$y = -5 \quad (0, -5)$$



b) $x + 3y = -3$

x-int., let $y=0$

$$x + 3y = -3$$

$$x + 3(0) = -3$$

$$x = -3$$

$(-3, 0)$

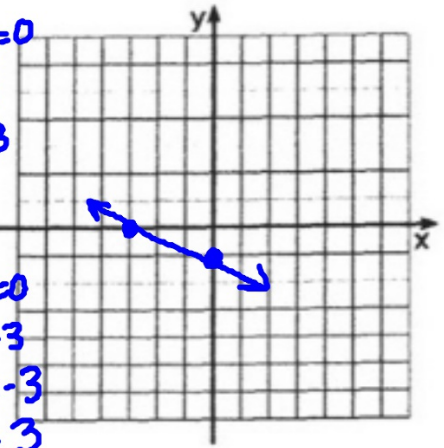
y-int., let $x=0$

$$x + 3y = -3$$

$$0 + 3y = -3$$

$$3y = -3$$

$$y = -1 \quad (0, -1)$$



***Check your graphs, by graphing in the calculator. Go to the $y=$ screen and type in the equation in $y=mx+b$ form.**

Kahoot: x and y intercepts

Example 4: Write each equation in slope intercept form. Then, find the slope and y-intercept.

a) $x + y = 1$
 $y = -x + 1$
 $m = -1, b = 1$

b) $2x + 4y = -4$
 $4y = -2x - 4$
 $\frac{4y}{4} = \frac{-2x}{4} - \frac{4}{4}$
 $y = -\frac{1}{2}x - 1$
 $m = -\frac{1}{2}, b = -1$

c) $x - 4y = 8$
 $-4y = -x + 8$
 $\frac{-4y}{-4} = \frac{-x}{-4} + \frac{8}{-4}$
 $y = \frac{1}{4}x - 2$
 $m = \frac{1}{4}, b = -2$

Example 5: Write each equation in slope intercept form. Then, find the slope and y -intercept.

a) $-3x + 5y = 10$

$$5y = 3x + 10$$

$$\frac{5y}{5} = \frac{3x}{5} + \frac{10}{5}$$

$$y = \frac{3}{5}x + 2$$

$$m = \frac{3}{5}, b = 2$$

b) $2x = 5y + 10$

$$2x - 10 = 5y$$

$$\frac{2x}{5} - \frac{10}{5} = \frac{5y}{5}$$

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

$$m = \frac{2}{5}, b = -2$$

c) $3x = -4y + 24$

$$3x - 24 = -4y$$

$$\frac{3x}{-4} - \frac{24}{-4} = \frac{-4y}{-4}$$

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

$$m = -\frac{3}{4}, b = 6$$

Classwork: Graphing Lines Review Odds

Homework: Graphing Lines Review Evens