

4 CHAPTER REVIEW

NAME: _____

P: _____

D: _____

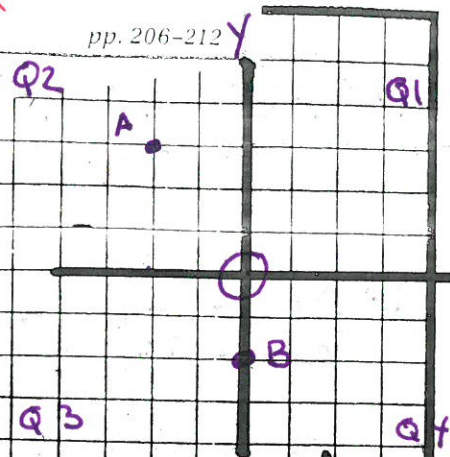
Plot Points in a Coordinate Plane

EXAMPLE

Plot the points $A(-2, 3)$ and $B(0, -2)$ in a coordinate plane. Describe the location of the points.

LABEL QUADRANTS, AXIS'S + ORIGIN

pp. 206-212



4.2 Graph Linear Equations

TABLE METHOD

pp. 215-221

EXAMPLE

Graph the equation $y + 3x = 1$. USE A TABLE!

DOMAIN:
 $x \geq -1$

x	-1	0	1	what is range?
y	4	1	-2	R: $y \leq 4$

PUT INTO $y = mx + b$:

$$\begin{aligned} y + 3x &= 1 \\ y - 3x - 3x &= 1 - 3x \\ y &= -3x + 1 \end{aligned}$$

- Create a table with $x \geq -1$
- Graph

4.3 Graph Using Intercepts

INTERCEPT METHOD

EXAMPLE

Graph the equation $2x - 8y = -16$

X INT: ($y=0$)

$$2x = -16$$

$$x = -8$$

Y INT ($x=0$):

$$-8y = -16$$

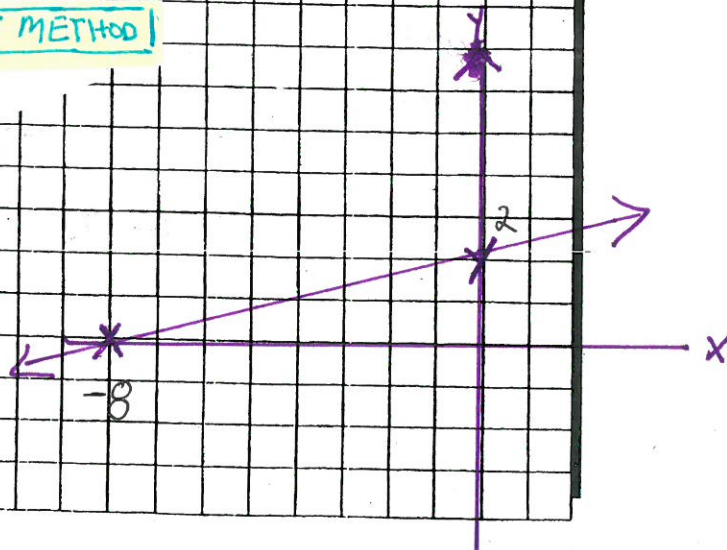
$$y = 2$$

X INT

$(-8, 0)$
 $x = -8$

Y INT

$(0, 2)$
 $y = 2$
 $b = 2$



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4.4 Find Slope and Rate of Change

pp. 235-242

$$M = \frac{\text{Rise}}{\text{Run}}$$

EXAMPLE

Given 2 Pts:

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

Given GRAPH:

Find the slope of the line shown.

Let $(x_1, y_1) = (2, -3)$ and $(x_2, y_2) = (4, -4)$. $M = \frac{\Delta y}{\Delta x}$

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

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

1 $(-5, 5), (5, 5)$

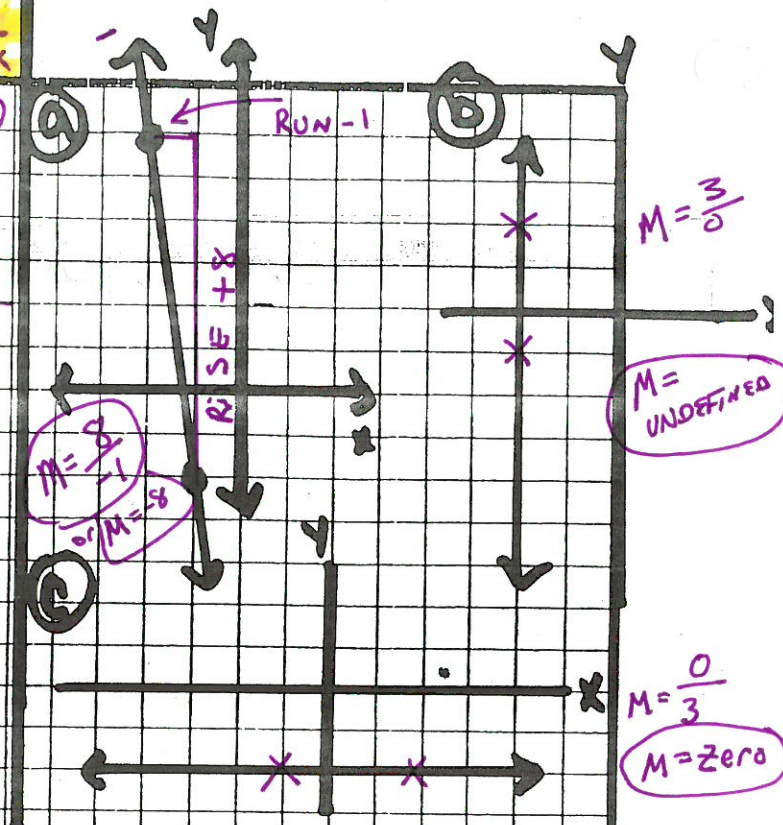
$$M = \frac{5 - 5}{5 - (-5)} = \frac{0}{10} = 0$$

$$M = \text{ZERO}$$

2 $(-3, -2), (-3, 4)$

$$M = \frac{\Delta y}{\Delta x} = \frac{-2 - 4}{-3 - (-3)} = \frac{-6}{0}$$

$$M = \text{UNDEFINED}$$



4.5 Graph Using Slope-Intercept Form

pp. 244-250

EXAMPLE

Graph the equation $2x + y = -1$.

SLOPE-INTERCEPT METHOD

- 1 POT INTO $y = mx + b$ ← slope ← y-int
- 2 PLOT Y-INT
- 3 USE Rise/Run

$$y = -2x - 1$$

$$M = -2/1 \quad \left(\frac{\text{Rise } -2}{\text{Run } 1} \right)$$

$$B = -1$$



Check for solutions:

Determine if the Given points are solutions to $2x + y = 4$
Show work.

a $(2, 2)$

$$2(2) + 2 = 4$$

$$6 \neq 4$$

$(2, 2)$ IS NOT A SOLUTION

b $(1, 2)$

$$2(1) + 2 = 4$$

$$4 = 4 \checkmark$$

$(1, 2)$ IS A SOLUTION

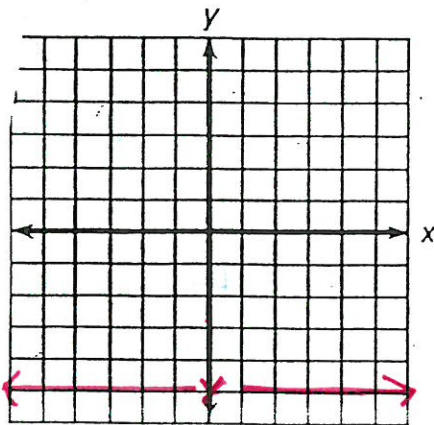
MORE REVIEW

GRAPH THE EQUATIONS. GIVE THE SLOPE AND Y-INTERCEPT

① $y = -5$

$\Downarrow$
 $y = 0x - 5$ $m = 0$ $b = -5$

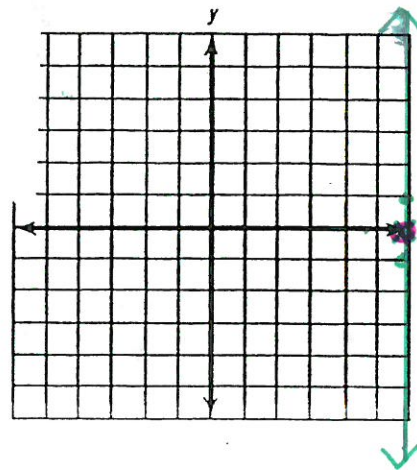
x	y
-1	-5
0	-5
1	-5



$y = b$ is always
a horizontal line

② $x = 6$

x	y
6	-1
6	0
6	1



$x = a$ is
always a
vertical line

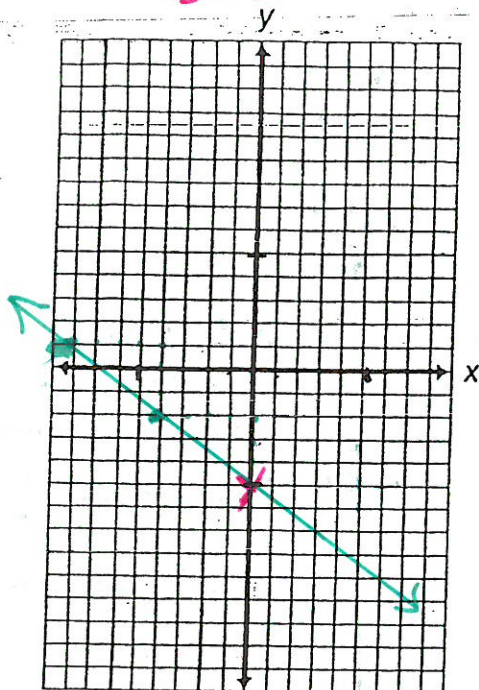
x-intercept

$m = \text{Undefined}$
 $b = \text{none}$

GRAPH USING SLOPE AND Y-INTERCEPT, STATE M + B.

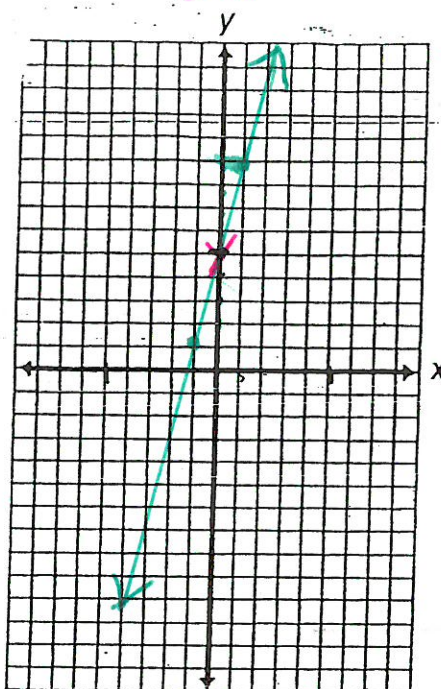
⑤ $y = -\frac{3}{4}x - 5$

$M = -\frac{3}{4}$
 $B = -5$



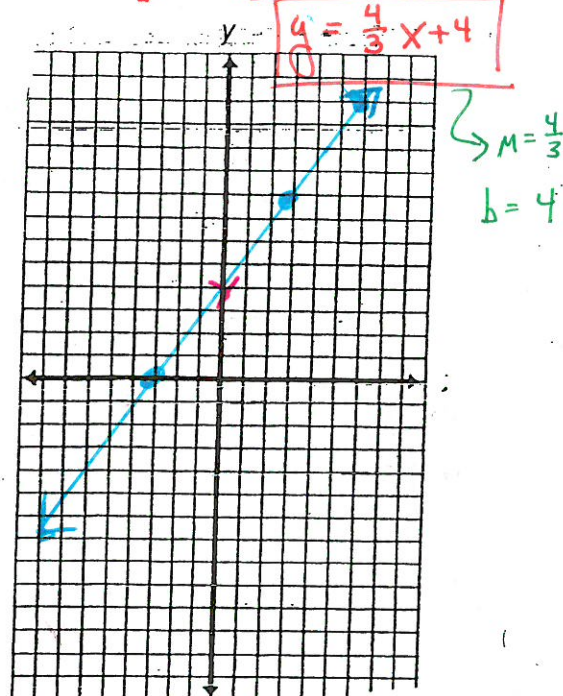
⑥ $y = 4x + 5$

$M = 4$
 $B = 5$



⑦ $4x - 3y = -12$

$$\begin{array}{r} -4x \\ 4x - 3y = -12 \\ \hline -3y = -12 \\ \hline y = 4 \end{array}$$



⑧

SWIMMING POOLS A public swimming pool that holds 45,000 gallons of water is going to be drained for maintenance at a rate of 100 gallons per minute. The amount of water w (in gallons) in the pool after t minutes is given by the function $w = 45,000 - 100t$. Graph the function. Identify its domain and range. [How much water is in the pool after 60 minutes?] [How many minutes will it take to empty the pool?]

KI: $w = 45,000 - 100t$
pool holds 45,000 gal water
 $w = \text{water (gal)}$
 $t = \text{time (min)}$

Rewrite EQ with x and y
 $y = 45,000 - 100x$

Graph ① USING S/I OR
② INTERCEPTS

$100x + y = 45,000$

$x: 450$

$y: 45,000$

Q1 $w = 45,000 - 100(60 \text{ min})$

$w = 39,000 \text{ gals of water}$

Q2 Since the x -intercept is $(450, 0)$.
The pool is empty after 450 min.

