

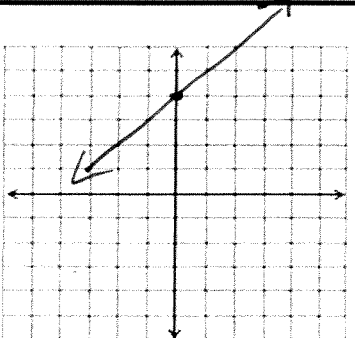
Section 5.3 Day 1 Notes

Name: _____

Objective: I can write linear equations using slope-intercept form. I can graph linear equations in slope-intercept form.

Word	Definition	Examples
Linear Equation	one that models a <u>linear function</u> In other words it is an equation that describes a <u>straight</u> line.	Examples of linear equations: $y = 2x$ $y = -\frac{1}{2}x + 4$ $3x - y = 5$ Examples of Non-linear equations: $y = x^2 + 4$ $y = 3^x$

You can recognize a linear equation because the variable in a linear equation is always raised to the power of one.

Word	Definition	Examples
y-intercept (b)	the point where a graph crosses the <u>y-axis</u>	 (0, 4) y-int = 4

Word	Definition	Examples
Slope-intercept form	$y = mx + b$ where m is the <u>slope</u> of the line and b is the <u>y-intercept</u> of the line	$y = 2x + 4$ $y = -\frac{1}{3}x$ $y = 4$ ($m=0$)

Find the slope and y-intercept of the graph of each equation.

$$y = 3x - 5$$

slope: 3
y-intercept: -5

$$y = -5x + 13$$

slope: -5
y-intercept: 13

$$y = x + 0$$

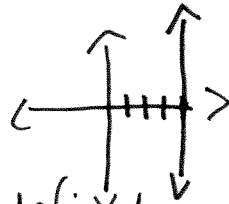
slope: 1
y-intercept: 0

$$y = 4$$

slope: 0
y-intercept: 4

$$x = 4$$

slope: undefined
y-intercept: 0



solve for y.

$$2x - y = 4 + y$$

$$y = 2x - 4$$

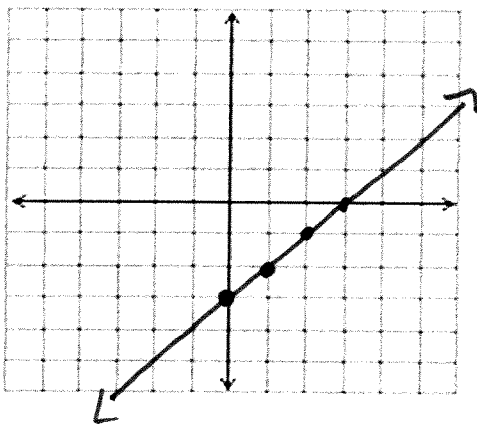
slope: 2
y-intercept: -4

$$m = \frac{-4}{5} \text{ rise over run} \quad b = 5$$

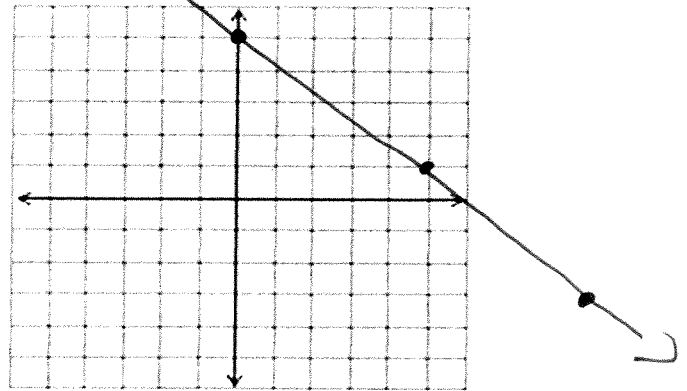
Graph the equation:

a) $y = x - 3$

$m = 1$ or $\frac{1}{1}$ rise over run
 $b = -3$



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



c) $y = -3x - 4$

$m = -3 = \frac{-3}{1}$
 $b = -4$

