Name_____   Date_____
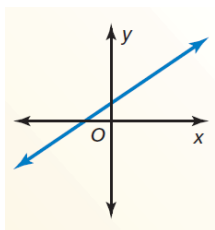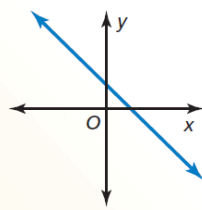
3.4 Graphing Linear Equations in Slope-Intercept Form

Essential Question:_____

The _____ m of a non-vertical line passing through two points (x_1, y_1) and (x_2, y_2) is the ratio of the _____ (change in y) to the _____ (change in x).
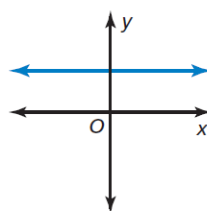
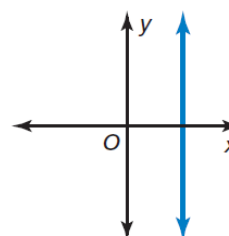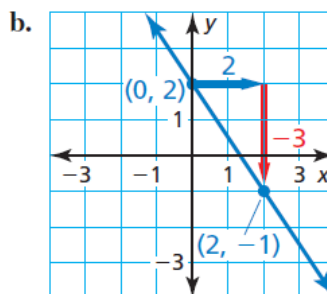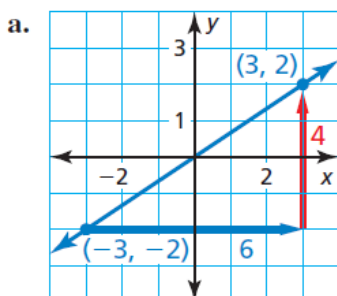| Positive slope	Negative slope	Slope of 0	Undefined slope

EXAMPLE 1   Finding the Slope of a Line

Describe the slope of each line. Then find the slope.

a.

b.

EXAMPLE 2   Finding Slope from a Table

The points represented by each table lie on a line. How can you find the slope of each line from the table? What is the slope of each line?

a.

x	y
4	20
7	14
10	8
13	2

b.

x	y
−1	2
1	2
3	2
5	2

c.

x	y
−3	−3
−3	0
−3	6
−3	9

A linear equation written in the form $y = mx + b$ is in the _____ form. The slope of the line is ____, and the y-intercept of the line is ____.

EXAMPLE 3   Identifying Slopes and y-Intercepts

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

a. $y = 3x - 4$ b. $y = 6.5$ c. $-5x - y = -2$

EXAMPLE 4   Using Slope-Intercept Form to Graph

Graph $2x + y = 2$. Identify the x-intercept.