Name: _____ Date: _____

Learning Goal 7.1	Solve systems of linear equations graphically.

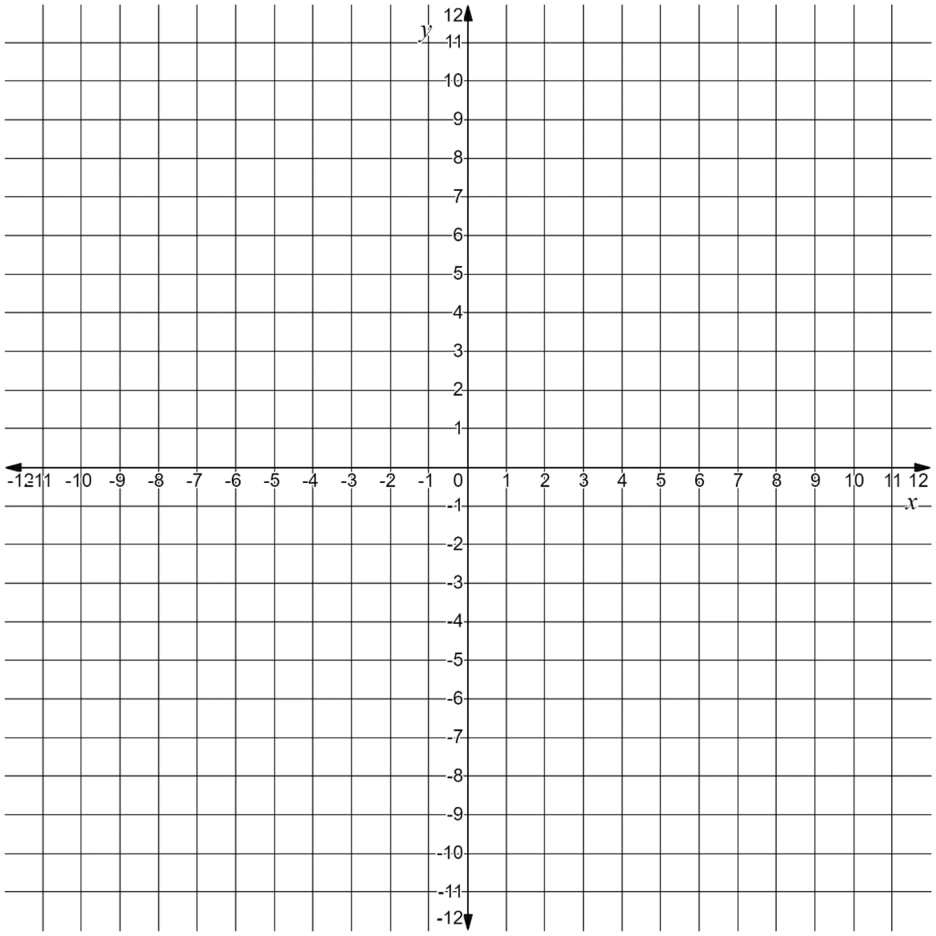
Investigation Use Desmos to solve each of the following linear systems by graphing.

a. $y = -\frac{2}{3}x + 9$
$y = 2x - 7$

b. $y - 3 = -\frac{1}{2}(x - 8)$
$2x + 4y - 28 = 0$

c. $y = \frac{4}{7}x - 10$
$4x - 7y - 49 = 0$

Sketch the graphs:



Solutions

a. b. c.

Slopes

a. b. c.

Assignment pg. 447 #1 – 9, 13, 22 Quiz Next Day!

Terminology

Parallel Lines Coincident Lines

Summary: Number of solutions to a linear system.

	a.	b.	c.
Number of Solutions			
Slopes			
y −intercepts			

*** Note: we can easily identify slope and y-intercept when the equation is in $y = mx + b$ form.

Example In the system of linear equations $y = 3x + 4$ and $y = 3x + b$, what values of *b* will result in a system that has

a. no solution? b. one solution? c. an infinite number of solutions.

Example In the system of linear equations $y = -2x + 1$ and $y = mx + 1$, what values of *m* will result in a system that has

d. no solution? e. one solution? f. an infinite number of solutions.