Algebra 1 6.1

Determine the number of solutions to a system of linear equations

Solve systems of linear equations by graphing

2 or more

linear equation $y = mx + B$

system of equations

y=mx+b

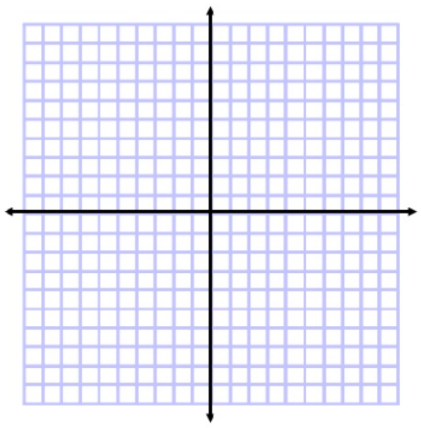
solution - in common

consistent

inconsistent

independent

dependent



2 pencils

whiteboards

Put two pencils on your desk

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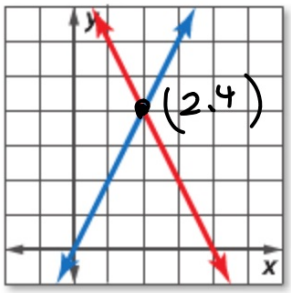
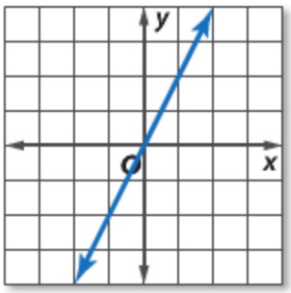
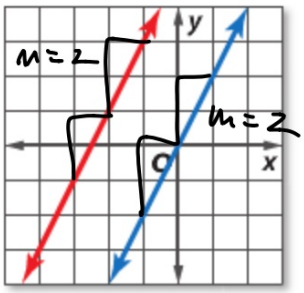
ConceptSummary Possible Solutions

Number of Solutions	exactly one	infinite	no solution
Terminology	consistent and independent	consistent and dependent	inconsistent
Graph			

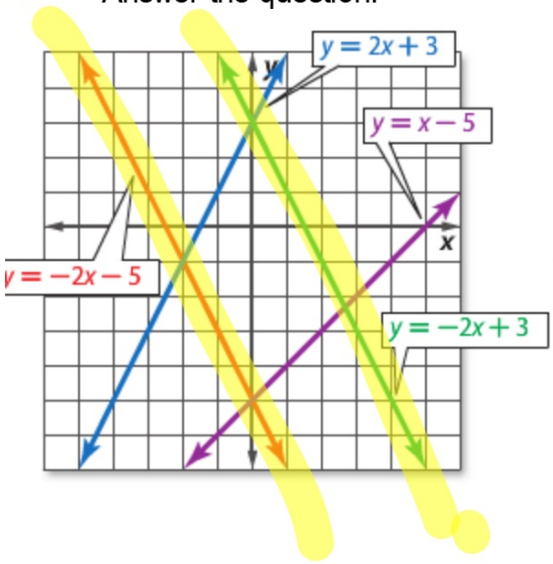
Example 1 Number of Solutions

Use the graph at the right to determine whether each system is *consistent* or *inconsistent* and if it is *independent* or *dependent*.

a. $y = -2x + 3$
$y = x - 5$

b. $y = -2x - 5$
$y = -2x + 3$

Find the lines
What is their relationship?
Answer the question.



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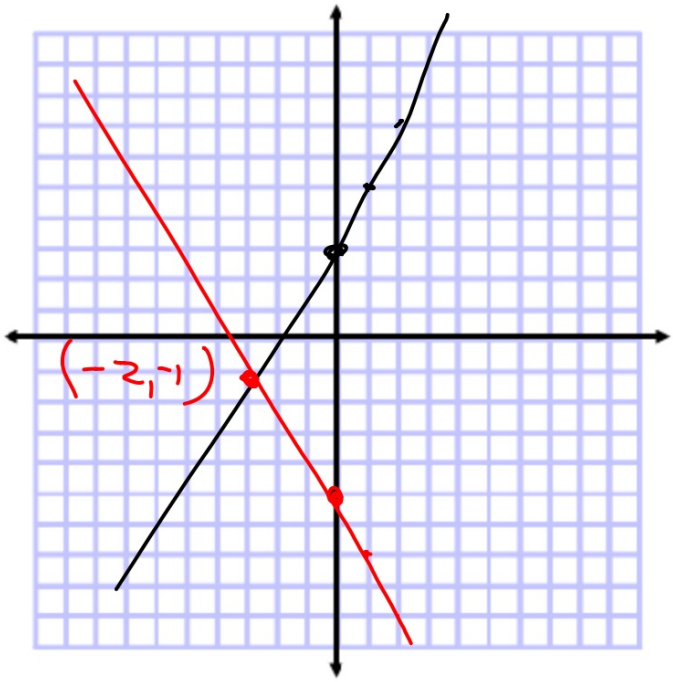
Guided Practice

1A $y = 2x + 3$

$y = -2x - 5$

Graph the lines
What is their relationship?
Answer the question.

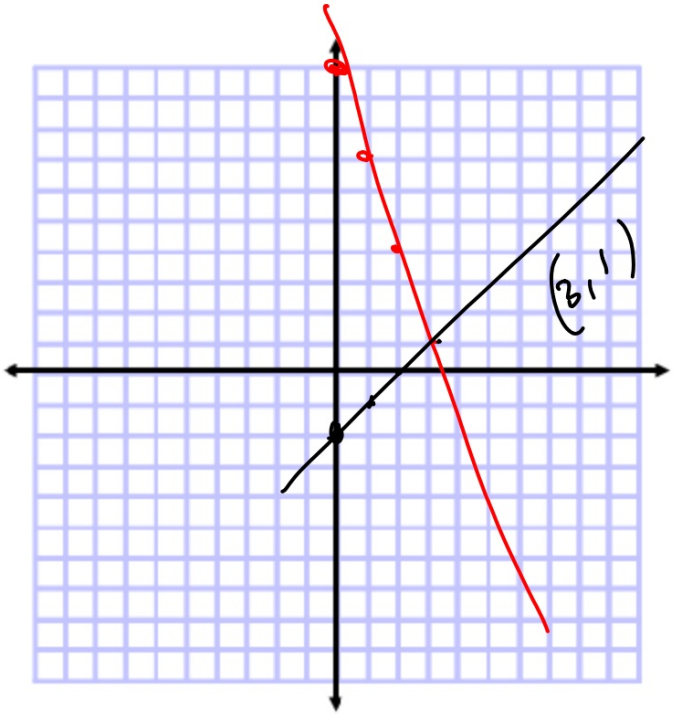


Example 2 Solve by Graphing

Graph each system and determine the number of solutions that it has. If it has one solution, name it. ordered pair!

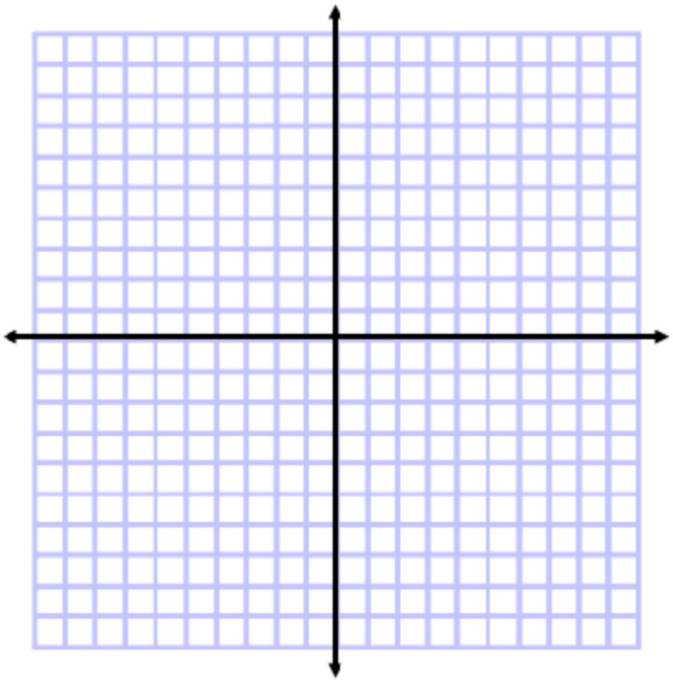
a. $y = -3x + 10$

$y = \frac{1}{3}x - 2$



Whiteboards

b. $2x - y = -1$
$4x - 2y = 6$

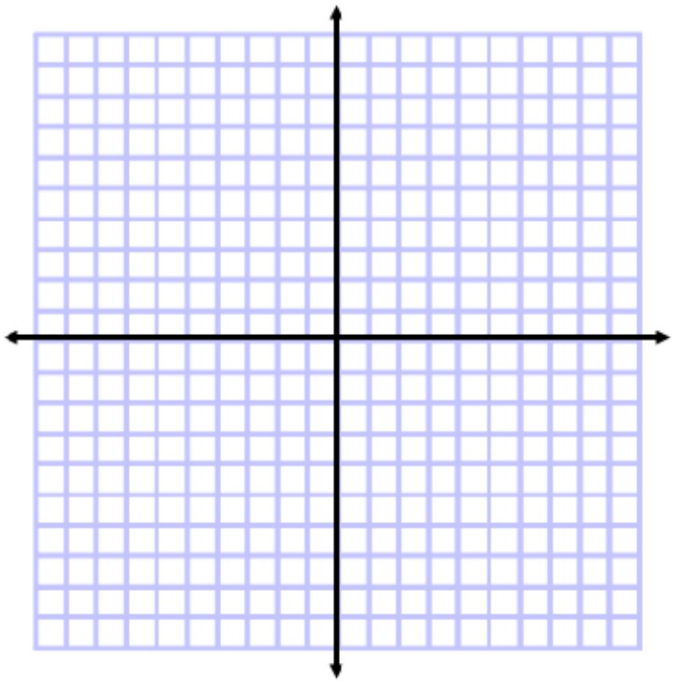


GuidedPractice

Graph each system and determine the number of solutions that it has. If it has one solution, name it.

2A. $x - y = 2$
$3y + 2x = 9$

2B. $y = -2x - 3$
$6x + 3y = -9$

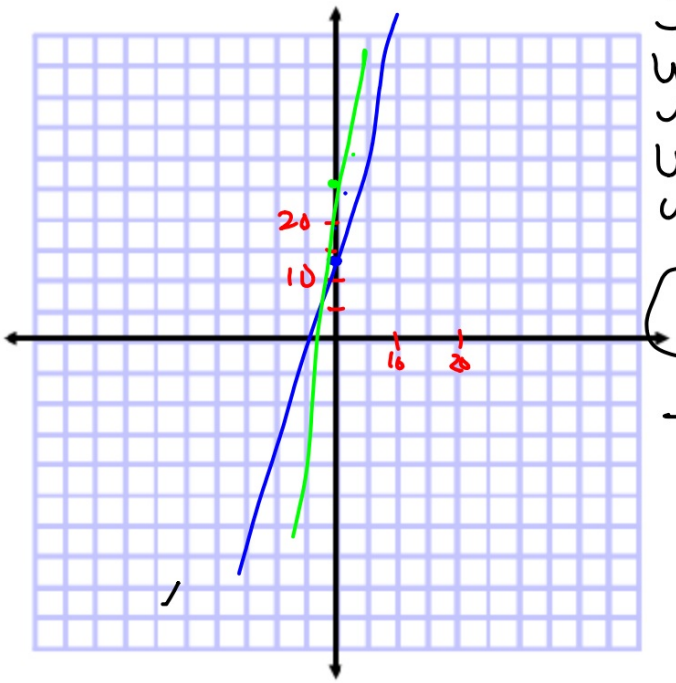


What is rate of change? Starting point?

m b

GuidedPractice

3. VIDEO GAMES Joe and Josh each want to buy a video game. Joe has $14 and saves $10 a week. Josh has $26 and saves $7 a week. In how many weeks will they have the same amount?



$y = mx + B$

$y = 10x + 14$ Joe

$y = 7x + 26$ Josh

$10x + 14 = 7x + 26$

$-7x \quad -14 \quad -7x \quad -14$

$3x = 12$

$x = 4$

6.1 p. 338

11 - 47 odd