NOTES: Section 3.1 – Solve Linear Systems by Graphing

Goals: #1 - I can solve a linear system using the graphing method and then check my

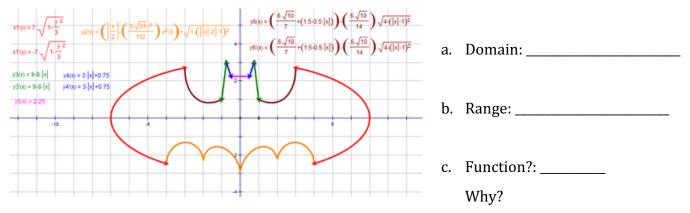
solution algebraically.

#2 - I can classify a system as consistent and independent, consistent and dependent, or inconsistent.

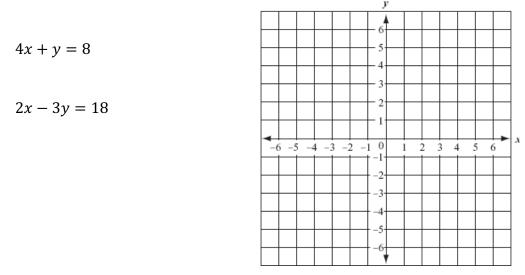
Warm Up:

1. Identify the domain and range of the given relation. Then tell whether the relation is a function.

Homework: Lesson 3.1 Worksheet



Exploration #1: Work with a partner. Graph both linear equations on the same graph.



Circle where these lines intersect. Can you check if your answer is correct?

Name:	Hour:		Date:	
Notes:				
A	, consists of	f two		_ equations.
A	of a system of linear equatio	ons, is a		
(x, y) where the gra	aphs of the equations in a system			

Exploration #2: Work with a partner. Graph both linear equations on the same graph.

							ć	t .						
2w + w = 4							- 6 - 5							
2x + y = 4							-4							
							- 3							
							- 2							
2x + y = 1							- 1							
							1							-
	-						-							-
	-6	-5	-4	4 -3	3 -2	2 -1	1 0		1 2	2 3	3 4	1 5	5 6	5
	-6	-5	-4	4 -3	3 -2	2 -1	1-		1 2	2 3	3 4	1 5	5 6	5
	-6	-5	-4	1 -3	3 -2	2 -1	1· 2·			2 3	3 4		5 6	5
	-6	-5		1 -3	3 -2	2 -1	1· 2· 3·			2 3	3 4		5 6	5
	-6	-5	-4	1 -3	3 -2	2 -1	1· 2· 3· 4·			2 3	3 4		5 6	5
	-6	-5		4 -3	3 -2	2 -1	1· 2· 3· 4· 5·			2 3			5 6	5
	-6	-5		1 -3	3 -2	2 -1	1· 2· 3· 4·							5

Circle where these lines intersect. Can you check if your answer is correct?

Notes:

Lines that never intersect are called ______.

Since the graphs of the system do ______ intersect, we have ______.

CHALLENGE: Could we have a system with a solution besides ONLY ONE SOLUTION, or NO SOLUTION?

Name:	Hour:	Date:
	110uii	Dutter

Exploration #3: Work with a partner. Graph both linear equations on the same graph.

							- 6]
4x - 3y = 8					$ \rightarrow$	$ \rightarrow$	- 5-	_	_			_	-
	-				+	_	- 4	+	-		+	+	-
					+	+	- 3	+	\vdash			+	1
8x - 6y = 16							- 2]
	•						1						- x
	-(6 -:	5 -4	1 -3	-2	-1	0	1	2	3 4	5	6	-
	-				+	\dashv	-2	_	-		_	_	-
	-	\vdash			+	+	-3	+	\vdash	$\left \right $		+	-
					+	\dashv	-4	-	\vdash			+	1
					\neg	\neg	-5-		\vdash			+	1
							-0- V						
Circle where these lines intersect. Can you check	c if y	yoı	ır a	ans	we	r i	s co	rreo	ct?				

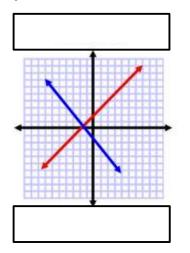
Notes:

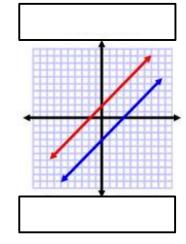
Lines that intersect at every point are ______ Since the graphs of the system intersect at ______ point, we have

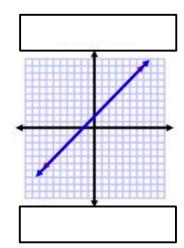
Anytime there IS a solution to the linear system, we call the system ______.

- A consistent system can be ______ if there is _____ solution.
- A consistent system can be ______ if there is _____ solutions.

Anytime there IS NO solution to the linear system, we call the system ______.







Name:	Hour:	Date:
		D 4101

Example #1: You are going fridge shopping! The price of refrigerator A is \$600, and the price of refrigerator B is \$1200. The cost of electricity needed to operate your new refrigerators is \$50 per year for refrigerator A and \$40 per year for refrigerator B.

a. Write a system of equations that models the cost of owning refrigerator A and the cost of owning refrigerator B. Be sure to define your variables.

b. Solve your system of equations by graphing. Be sure to label your axes.

-							
-							
-							
-							

c. After how many years are the total costs of owning the refrigerators equal?