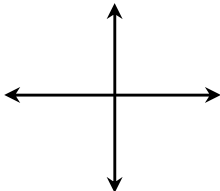
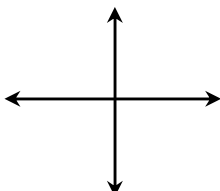
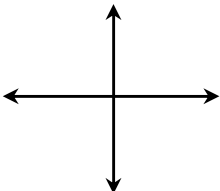
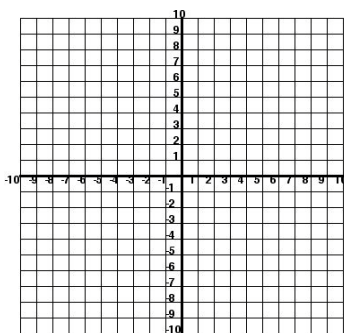
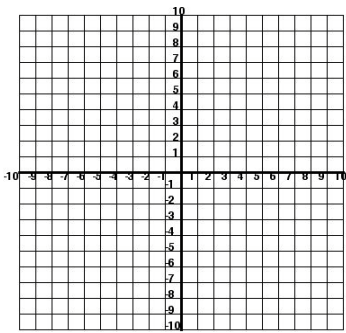
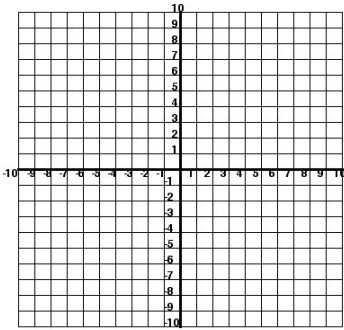
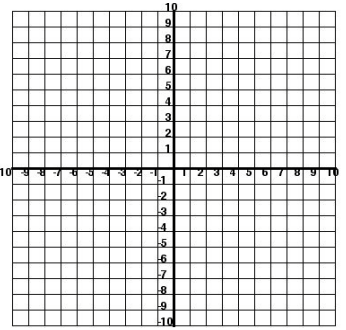
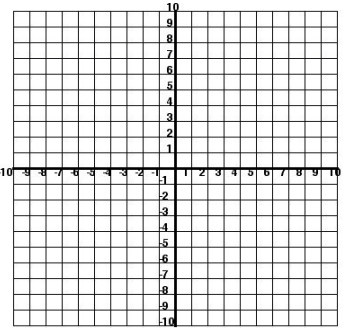
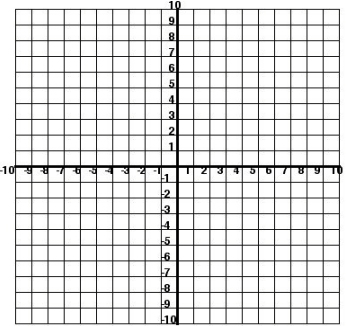


Name:

Date:

Topic:

Class:

Main Ideas/Questions	Notes/Examples		
System of Equations			
Types of Solutions			
	One Solution	No Solution	Infinite Solution
Solve by Graphing	Solve each system of equations below by graphing. Identify the solution.		
1. $y = -\frac{5}{3}x - 6$ $y = \frac{1}{6}x + 5$	2. $y = 5$ $y = 2x + 7$		
			
3. $6x - 5y = -45$ $2x + 2y = -4$	4. $3x + 6y = -12$ $y = -\frac{1}{2}x - 5$		
			
5. $2y = 8x + 18$ $24 + 4y = x$	6. $-y = -x - 6$ $3x + 18 = 3y$		
			

Solve by Substitution	①	SOLVE one equation for x or y. (Isolate a variable)
	②	SUBSTITUTE the resulting equation from step 1 into the other equation for that variable.
	③	SOLVE for the remaining variable.
	④	SUBSTITUTE your answer from step 3 into either original equation to find the other variable.
Directions: Solve each system of equations below by substitution. Identify the solution.		
7. $y = -7x - 1$ $y = x - 9$		8. $y = -5x + 30$ $7x + 3y = 42$
9. $6x - 5y = -28$ $7x + y = 22$		10. $x - 7y = 53$ $-4x - 5y = 19$
11. $2y = 6x + 10$ $3x - y = 5$		12. $5x + 7y = -17$ $4x - 3y = -5$

Name: _____

Unit 2: Linear Functions

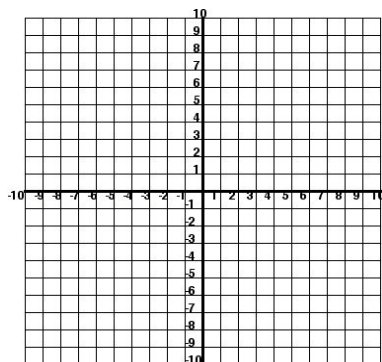
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Homework 4: Solving Systems of Equations by Graphing & Substitution

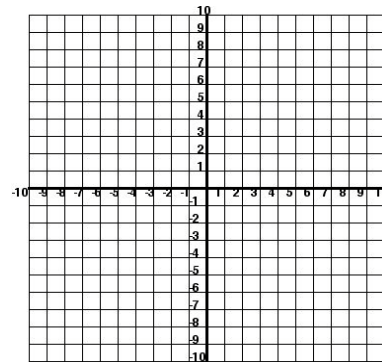
**** This is a 2-page document! ****

Directions: Solve each system of equations by graphing. Clearly identify your solution.

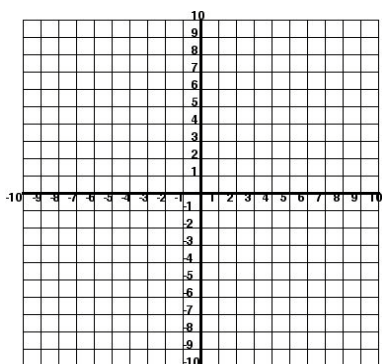
1. $y = \frac{1}{4}x + 1$
 $y = -x - 9$



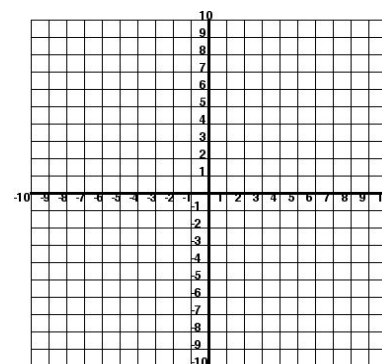
2. $y = 2x - 8$
 $13x + 2y = 18$



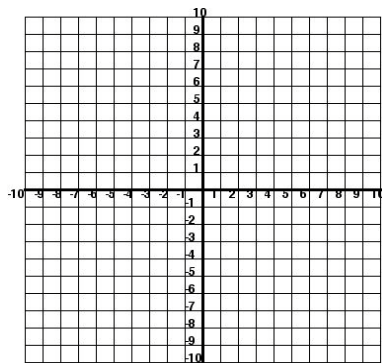
3. $3x + 7y = -63$
 $x - y = -1$



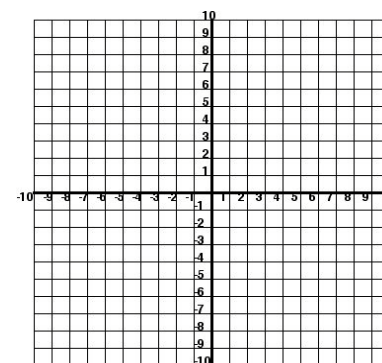
4. $3x - 2y = 10$
 $x = 2$



5. $-6y = 36 - x$
 $4x - 3y = -3$



6. $-12x = 30y + 60$
 $2x + 5y = 20$



Directions: Solve each system of equations by substitution. Clearly identify your solution.

7. $y = -2x + 14$
 $y = 5x - 7$

8. $y = -4x - 9$
 $7x + 4y = -27$

9. $x - y = -9$
 $8x - 3y = -62$

10. $7x - y = 34$
 $2x + 3y = -10$

11. $2x = 16 - 8y$
 $x + 4y = 25$

12. $-\frac{2}{3}x - 7y = 6$
 $x + 3y = -9$

13. $2x - 9y = 26$
 $6x - 2y = -22$

14. $3x - 2y = 10$
 $9x + 4y = -50$

Name:	Date:
Topic:	Class:

Main Ideas/Questions	Notes/Examples	
Solve by Elimination	①	LINE UP the equations.
	②	MULTIPLY one or both equations by a number to result in a variable with the same coefficient.
	③	ADD or SUBTRACT the equations to eliminate this variable.
	④	SOLVE for the remaining variable.
	⑤	SUBSTITUTE your answer from step 4 into either original equation to find the other variable.

Directions: Solve each system of equations below by elimination. Identify the solution.			
1. $x + 7y = 17$ $x - y = -7$		2. $3x + 2y = 22$ $5x - 2y = 42$	
3. $4x - 9y = -42$ $x + 5y = 4$		4. $7x - 6y = -53$ $2x - 3y = -13$	
5. $5x + 3y = -7$ $2x + 7y = 3$		6. $3x - 9y = 9$ $4x - 12y = 36$	

7. $5x - 6y = 3$
 $7y = 2x + 8$

8. $10x + 18 = -8y$
 $4 + 9x = 5y$

Applications

①

DEFINE YOUR VARIABLES – What are you solving for?

②

SET UP TWO EQUATIONS using the information given.

③

SOLVE the system using your method of choice.

9. Marcie bought a total of 20 used books and CDs during a yard sale for a total of \$54.50. If books cost \$1.50 each and CDs cost \$5 each, how many of each did she buy?

10. Landon babysits and works part time at the water park over the summer. One week, he babysat for 3 hours and worked at the water park for 10 hours and made \$109. The next week he babysat for 8 hours and worked at the water park for 12 hours and made \$177. How much does Landon make per hour at each job?

11. Kent has a collection of pennies and nickels with a value of \$1.98. The number of pennies he has is five less than twice the number of nickels. How many of each coin does Kent have?

MORE APPLICATIONS PRACTICE *with* SYSTEMS

Directions: For each problem - define your variables, set up a system of equations, and solve.

1. At the fast food restaurant, four cheeseburgers and five small fries have a total of 2,310 calories. Three cheeseburgers and two small fries have a total of 1,330 calories. How many calories does each item contain?
2. One month, a homeowner used 150 units of gas and 520 units of electric for a total cost of \$84.20. The next month, 210 units of gas and 405 units of electric were used for a total cost of \$82.35. Find the cost per unit of gas and electric.
3. Kym is renovating the first floor of her home. She bought 750 square feet of laminate flooring and 525 square feet of carpet and paid \$2717.25. She went back to the store and bought an additional 100 square feet of laminate flooring and 75 square feet of carpet and paid \$374.75. Find the cost per square foot of each type of flooring.
4. Sean bought 1.8 pounds of gummy bears and 0.6 pounds of jelly beans and paid \$10.26. He went back to the store the following week and bought 1.2 pounds of gummy bears and 1.5 pounds of jelly beans and paid \$15.09. What is the price per pound of each type of candy?

- 5.** Courtney has a total of 88 stamps worth \$15.56. Some are 25¢ stamps and some are 2¢ stamps. How many of each does she have?
- 6.** Tom put 18 gallons of midgrade gas in his truck and filled up his empty five-gallon gas can with regular gas for his lawnmower at home. He spent \$59.91. The following week, he put 14 gallons of midgrade gas in his truck and topped off his five-gallon can with just one gallon of regular gas. If he paid \$39.75 and the prices remained the same, find the price per gallon of midgrade and regular gas.
- 7.** A total of \$12,000 was invested in two types of bonds. One pays 8% simple interest while the other pays 10.5%. Last year, the annual interest earned on the two investments was \$1,145. How much was invested at each rate?
- 8.** A collection of dimes and quarters is worth \$9.55. If the quarters were dimes and the dimes were quarters, the total value would be \$7.60. Find the number of each coin.