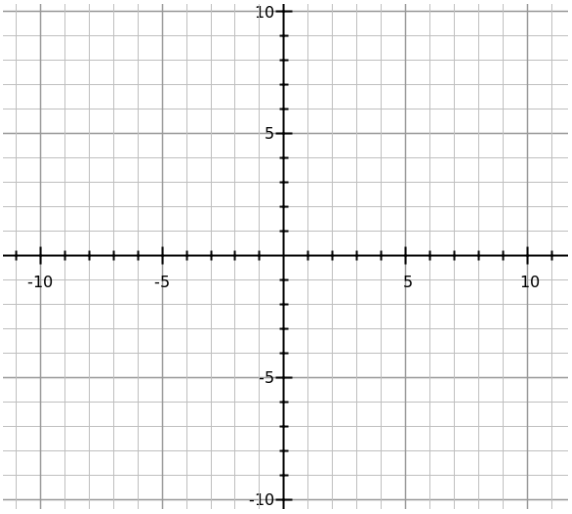
Name _____ Date _____ Pd ___

Chapter 5 Test Review Packet

1. Graph the given two equations to determine the common solution.

$y = 2x$
$x + y = 6$



Solution: _____

2. Use **SUBSTITUTION** to solve this system of equations. Show all work for full credit.

$x - y = 5$
$3x - 5y = 8$

Solution: _____

3. Use **ELIMINATION** to solve this system of equations. Show all work for full credit.

$3x + 4y = -25$
$2x - 3y = 6$

Solution: _____

4. Solve each of the following system of equations using your choice of algebraic method. Show all work for full credit. Be sure to write your final answer in correct notation.

a) $\begin{aligned} x &= 8y \\ 2x + 3y &= 38 \end{aligned}$

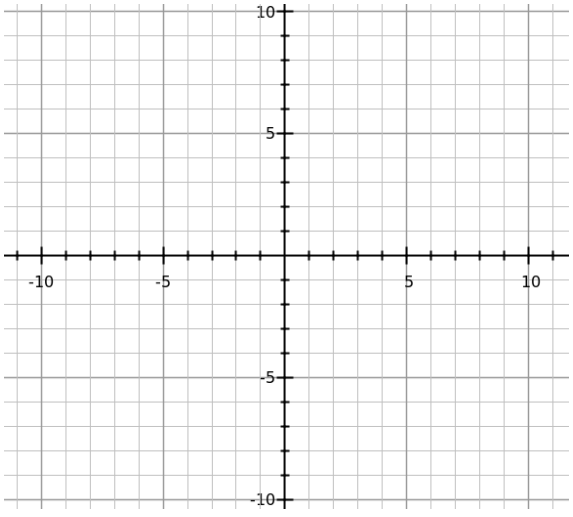
b) $\begin{aligned} 3x - 4y &= -10 \\ 5x + 8y &= -2 \end{aligned}$

c) $\begin{aligned} 2x + 3y &= 6 \\ x + 2y &= 5 \end{aligned}$

5. Solve the following system of linear inequalities by graphing. Make sure your solutions are clear.

$3x - 4y < 24$

$y \geq -\frac{2}{5}x + 3$



Real-World Problems: Be sure to define your variables, write your system, show your work for solving, and write your final answer as a sentence in terms of the scenario. Your final sentence should make sense.

6. One number is added to three times another number and the result is 134. Two times the first number added to the other number is 83. What are the numbers?

7. A movie theater charges $6 for an adult's ticket and $4 for a child's ticket. One Saturday the theater sold 605 tickets for $2,982. How many of each ticket were sold for the movie that Saturday?

8. There is a boat and we need to determine the speed of the boat if in still water versus water with current. If r represents the rate of a boat in still water and c represents the rate of the current, determine the rate of each (in miles per hour). The time up river took 2 hours and the return trip down river took 1.5 hours. The trip was a total of 120 miles.

9. Tickets to a movie cost $7.25 for adults and $5.50 for students. A group of friends purchased 8 tickets for $52.75. Write a system of equations to represent the situation. Then determine how many adult tickets and student tickets were purchased.

10. The sum of two numbers is 41 and their difference is 5. What are the two numbers?

11. Four times one number added to another number is 36. Three times the first number minus the other number is 20. Find the numbers.

12. **CANOEING**. Laura and Brent paddled a canoe 6 miles upstream in four hours. The return trip took three hours. Find the rate at which Laura and Brent paddled the canoe in still water.

13. Nick plans to start a home-based business producing and selling gourmet dog treats. He figures it will cost $20 in operating costs per week plus $0.50 to produce each treat. He plans to sell each treat for $1.50. How many treats does Nick need to sell per week to break even?