

Name: _____ Date: _____ Period: _____

Solve each system

1. $x + 2y = 3$
 $x - y = 6$

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

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

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

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

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

10. **Writing** For the system $\begin{cases} 3x - 5y = 9 \\ 2x + y = 3 \end{cases}$, which variable should you eliminate first and why? How will you eliminate that variable?

11. A farm raises a total of 220 chickens and pigs. The number of legs of the stock in the farm totals 520. How many chickens and pigs are at the farm?

12. Your math test has 38 questions and is worth 200 points. The test consists of multiple-choice questions worth 4 points each and open-ended questions worth 20 points each. How many of each type of question are there?

13. A student bought 3 boxes of pencils and 2 boxes of pens for \$6. He then bought 2 boxes of pencils and 4 boxes of pens for \$8. Find the cost of each box of pencils and each box of pens.

Solve each system of inequalities by graphing.

14. $3x + y \leq 1$
 $x - y \leq 3$

15. $5x - y \leq 1$
 $x + 3y \leq -2$

16. $4x + 3y \leq 1$
 $2x - y \leq 2$

17. $5x + 7y > -6$
 $x + 3y < -1$

18. $x + 4y - 2 \geq 0$
 $2x - y + 1 > 2$

Determine whether the ordered pair is a solution of the given system.

19. $(0, 1);$
 $1 - x \geq 3y$
 $3y - 1 > 2x$

20. $(-2, 3);$
 $2x + 3y > 2$
 $3x + 5y > 1$

21. $(1, 4);$
 $2x + y > 3$
 $-3x - y \leq 5$

22. Mark is a student, and he can work for at most 20 hours a week. He needs to earn at least \$75 to cover his weekly expenses. His dog-walking job pays \$5 per hour and his job as a car wash attendant pays \$4 per hour. Write a system of inequalities to model the situation, and graph the inequalities.

23. Britney wants to bake at most 10 loaves of bread for a bake sale. She wants to make banana bread that sells for \$1.25 each and nut bread that sells for \$1.50 each and make at least \$24 in sales. Write a system of inequalities for the given situation and graph the inequalities.