Name _____ Date _____

Practice B
For use with the lesson "Solve Linear Systems by Substitution"

Solve for the indicated variable.

1. $8x + 4y = 12; y$ **2.** $3x - 4y = 12; y$ **3.** $6x - 4y = 8; x$

Tell which equation you would use to isolate a variable. *Explain* **your reasoning.**

4. $x = 8y - 3$

    $3x - 4y = 1$

5. $-4x + 5y = 11$

    $y = 4x - 1$

6. $9 - 3x = y$

    $3x - y = -2$

Solve the linear system by using substitution.

7. $x = 6 - 4y$

    $2x - 3y = 1$

8. $4x + 3y = 0$

    $2x + y = -2$

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

    $8x + y = 31$

10. $6x - y = -35$

    $5x - 2y = -35$

11. $-x + 3y = -9$

    $8x - 4y = 32$

12. $3x + 3y = -18$

    $4x - y = -14$

13. $2x + 2y = 6$

    $-3x + 5y = -33$

14. $5x + 2y = 43$

    $-6x + 3y = -30$

15. $4x - 2y = -4$

    $7x - 5y = -19$

16. $3x + 2y = 5$

    $5x - 9y = -4$

17. $4x - 3y = 28$

    $2x + 3y = -4$

18. $8x + 8y = 24$

    $x + 5y = 11$

19. **Drum Sticks** A drummer is stocking up on drum sticks and brushes. The wood sticks that he buys are $10.50 a pair and the brushes are $24 a pair. He ends up spending $90 on sticks and brushes and buys two times as many pairs of sticks as brushes. How many pairs of sticks and brushes did he buy?

20. **Mowing and Shoveling** Last year you mowed grass and shoveled snow for 12 households. You earned $225 for mowing a household's lawn for the entire year and you earned $200 for shoveling a household's walk and driveway for an entire year. You earned a total of $2600 last year.

    a. Let x be the number of households you mowed for and let y be the number of households you shoveled for. Write an equation in x and y that shows the total number of households you worked for. Then write an equation in x and y that shows the total amount of money you earned.

    b. How many households did you mow the lawn for and how many households did you shovel the walk and driveway for?

21. **Dimensions of a Metal Sheet** A rectangular hole 3 centimeters wide and x centimeters long is cut in a rectangular sheet of metal that is 4 centimeters wide and y centimeters long. The length of the hole is 1 centimeter less than the length of the metal sheet. After the hole is cut, the area of the remaining metal sheet is 20 square centimeters. Find the length of the hole and the length of the metal sheet.

4 cm   3 cm

x

y