

LESSON
7.2

NAME _____ DATE _____

Practice A

For use with pages 396–401

Solve for the indicated variable.

1. $5x + y = 8; y$ 2. $2x - y = 4; y$ 3. $x - 3y = 7; x$
 4. $2x + 4y = 8; x$ 5. $3x - 3y = -9; y$ 6. $-\frac{1}{2}x + 5y = 3; x$

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

7. $3x - y = 5$ 8. $-2a + b = 7$ 9. $2m + 5n = 14$
 $2x + y = 0$ $3a + b = -8$ $2m - n = 6$

Use the substitution method to solve the linear system.

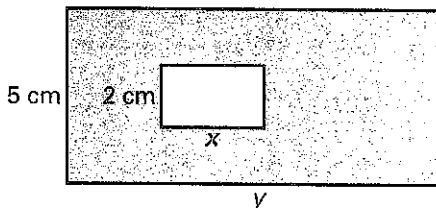
10. $y = x + 2$ 11. $y = x - 1$ 12. $2x + y = 3$
 $2x + y = 8$ $2x - y = 0$ $y = 7$
 13. $3x - y = -2$ 14. $x - 2y = 8$ 15. $y = -3x - 1$
 $y = 2x + 3$ $y = -4x + 5$ $x - 3y = 3$
 16. $x + y = -3$ 17. $x - y = 4$ 18. $3x + y = 0$
 $3x + y = 3$ $x - 2y = 10$ $x - y = 4$
 19. $3x - y = 9$ 20. $x - 2y = 0$ 21. $2x - y = 3$
 $2x + y = 6$ $3x + y = 0$ $3x - y = 4$

22. **Driving** Your brother and sister took turns driving on a 580-mile trip that took 10 hours to complete. Your brother drove at a constant speed of 55 miles per hour and your sister drove at a constant speed of 60 miles per hour. Assign labels to the verbal model below. Write and solve an algebraic model. How long did each person drive?

Number of hours brother drove	+	Number of hours sister drove	=	Total number of hours
----------------------------------	---	---------------------------------	---	--------------------------

Brother's speed	·	Number of hours brother drove	+	Sister's speed	·	Number of hours sister drove	=	Total number of miles
--------------------	---	----------------------------------	---	-------------------	---	---------------------------------	---	--------------------------

23. **Dimensions of a Metal Sheet** A rectangular hole 2 centimeters wide and x centimeters long is cut in a rectangular sheet of metal 5 centimeters wide and y centimeters long. The length of the hole is 8 centimeters less than the length of the metal sheet. After the hole is cut, the area of the remaining metal is 49 cm^2 . Find the length of the hole and the length of the metal sheet.



Practice B

For use with pages 396–401

Solve for the indicated variable.

1. $5x + y = -8; y$

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

3. $x + 3y = 7; x$

4. $-2x + 4y = 8; x$

5. $-3x - 3y = 9; y$

6. $-\frac{1}{2}x + 5y = -3; x$

Tell which equation you would use to isolate a variable.

Explain your reasoning.

7. $4x - y = -6$

8. $2a + 4b = 10$

9. $-m + 5n = 16$

$2x + y = 0$

$3a - b = 1$

$-2m + 3n = 4$

Use the substitution method to solve the linear system.

10. $y = x + 3$

11. $4x + y = 9$

12. $3x = 9$

$3x - y = 5$

$y = -7$

$-2x + y = -8$

13. $x - 2y = -13$

14. $x - y = 10$

15. $4x + y = 2$

$y = -2x - 6$

$5x - y = -6$

$x - y = -17$

16. $-x + 3y = 4$

17. $3x + 2y = 8$

18. $x - 5y = -3$

$x + 6y = 14$

$x + 4y = -4$

$4x - 3y = 5$

19. $2x + 5y = 4$

20. $\frac{1}{2}x + y = 2$

21. $\frac{1}{3}x + \frac{5}{6}y = 1$

$x + 5y = 7$

$2x + 3y = 9$

$-\frac{1}{2}x - y = 1$

22. **Mowing and Shoveling** Last year you mowed grass and shoveled snow for 10 households. You earned \$200 per household mowing for the entire season and \$180 per household shoveling for the entire season. If you earned a total of \$1880 last year, for how many households did you mow and shovel? Assign labels to the verbal model below. Write and solve an algebraic model.

Number of households
you mow for

+

Number of households
you shovel for

=

Total number
of householdsEarnings per
household
mowingNumber of
households
mow for

+

Earnings per
household
shovelingNumber of
households
shovel for

=

Total
earnings

23. **Dimensions of a Metal Sheet** A rectangular hole 2 centimeters wide and x centimeters long is cut in a rectangular sheet of metal $\frac{7}{2}$ 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 is 11 cm^2 . Find the length of the hole and the length of the metal sheet.

