

Practice B

For use with pages 402–408

Use linear combinations to solve the system of linear equations.

1. $x + y = 11$
 $x - y = 7$

2. $x - 2y = 8$
 $-x + 3y = -15$

3. $3x + y = -8$
 $-3x + 4y = -2$

4. $2x - 4y = 14$
 $-2x + 3y = -11$

5. $\frac{1}{2}x - y = -3$
 $-5x + y = 12$

6. $7.5x - 1.2y = -2.7$
 $-1.5x + 1.2y = -3.3$

7. $x + 2y = -3$
 $x - 4y = 15$

8. $-x - 5y = 30$
 $2x - 7y = 25$

9. $-x + 8y = 16$
 $3x + 4y = 36$

10. $4x - 3y = -3$
 $4x + 5y = 5$

11. $4x + 5y = -2$
 $5x - 4y = -23$

12. $9x - 4y = -18$
 $-3x + 8y = 6$

13. $4x = -11 + y$
 $y = -6x - 9$

14. $x = 2y - 3$
 $2y = 3x + 13$

15. $4y = 15 - 3x$
 $2y = 3x + 21$

16. $4x = 5y - 14$
 $3y - 8x = -14$

17. $5x = 4y - 30$
 $2x + 3y = -12$

18. $\frac{2}{3}y = 10 + 4x$
 $5x = \frac{1}{3}y - 8$

Electricians In Exercises 19–21, use the following information.

The yellow pages identify two different local electrical businesses. Business A charges \$50 for a service call, plus an additional \$36 per hour for labor. Business B charges \$35 for a service call, plus an additional \$39 per hour for labor.

19. Let x represent the number of hours of labor and let y represent the total charge. Write a system of equations you could solve to find the length of a service call for which both businesses charge the same amount.
20. Solve the system.
21. Which company would you use? Why?

Travel Agency In Exercises 22 and 23, use the following information.

A travel agency offers two Boston outings. Plan A includes hotel accommodations for three nights and two pairs of baseball tickets worth \$518. Plan B includes hotel accommodations for five nights and four pairs of baseball tickets worth \$907.

22. Let x represent the cost of one night's hotel accommodation and let y represent the cost of one pair of baseball tickets. Write a system of equations you could solve to find the cost of one night's hotel accommodation and one pair of baseball tickets.
23. Solve the system to find the cost of one night's hotel accommodation and of one pair of baseball tickets.

Highway Project In Exercises 24 and 25, use the following information.

There are sixteen workers employed on a highway project, some at \$200 per day and some at \$165 per day. The daily payroll is \$2745.

24. Let x represent the number of \$200 per day workers and let y represent the number of \$165 per day workers. Write a system of equations to find the number of workers employed at each wage.
25. Solve the system to find the number of workers employed at each wage.