5.3 Practice WITH CalcChat® AND CalcView®

GO DIGITAL

In Exercises 1–8, solve the system by elimination. Check your solution. *Example 1*

1. $x + 2y = 13$
   $-x + y = 5$

2. $9x + y = 2$
   $-4x - y = -17$

3. $5x + 6y = 50$
   $x - 6y = -26$

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

5. $-3x - 5y = -7$
   $-4x + 5y = 14$

6. $1.5x - 9y = -21$
   $-1.5x - 3y = 9$

7. $-y - 10 = 6x$
   $5x + y = -10$

8. $3x - 30 = y$
   $7y - 6 = 3x$

In Exercises 9–16, solve the system by elimination. Check your solution. *Example 2*

9. $x + y = 2$
   $2x + 7y = 9$

10. $8x - 5y = 11$
    $4x - 3y = 5$

11. $11x - 20y = 28$
    $3x + 4y = 36$

12. $10x - 9y = 46$
    $-2x + 3y = 10$

13. $4x - 3y = 8$
    $5x - 2y = -11$

14. $-2x - 5y = 9$
    $3x + 11y = 4$

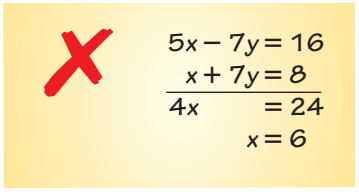
15. $9x + 2y = 39$
    $6x + 13y = -9$

16. $12x - 7y = -2$
    $8x + 11y = 30$

17. **MODELING REAL LIFE** A service center charges a fee of x dollars for an oil change plus y dollars per quart of oil used. Customer A receives 5 quarts of oil and pays a total of \$37.45. Customer B receives 7 quarts of oil and pays a total of \$46.45. Find the fee and cost per quart of oil. *Example 3*

18. **MODELING REAL LIFE** A music website charges x dollars for individual songs and y dollars for entire albums. Person A pays \$25.92 to download 6 individual songs and 2 albums. Person B pays \$33.93 to download 4 individual songs and 3 albums. How much does the website charge to download a song? an entire album?

19. **ERROR ANALYSIS** Describe and correct the error in solving for one of the variables in the linear system $5x - 7y = 16$ and $x + 7y = 8$.



20. **WRITING** For what values of a can you solve the linear system $ax + 3y = 2$ and $4x + 5y = 6$ by elimination without multiplying first? Explain.

In Exercises 21–26, solve the system using any method. Explain your choice of method.

21. $3x + 2y = 4$
    $2y = 8 - 5x$

22. $-6y + 2 = -4x$
    $y - 2 = x$

23. $y - x = 2$
    $y = -\frac{1}{4}x + 7$

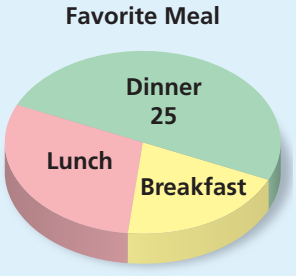
24. $3x + y = \frac{1}{3}$
    $2x - 3y = \frac{8}{3}$

25. $0.3x - 0.2y = -2.1$
    $0.6x + 1.3y = 0.9$

26. $\frac{1}{3}x + \frac{2}{3}y = 2$
    $\frac{1}{2}x - \frac{1}{4}y = -\frac{3}{4}$

27. **OPEN-ENDED** Write a linear system for which you can add *or* subtract to eliminate a variable.

28. **HOW DO YOU SEE IT?** The circle graph shows the results of a survey in which 50 students were asked about their favorite meal.



   a. Estimate the numbers of students who chose breakfast and lunch.

   b. The number of students who chose lunch is 5 more than the number of students who chose breakfast. Write a linear system that represents the numbers of students who chose breakfast and lunch.

   c. Explain how you can solve the linear system in part (b) to check your answers in part (a).