

Practice B

For use with pages 214–221

Evaluate the determinant of the matrix.

1. $\begin{bmatrix} 3 & -5 \\ 4 & 8 \end{bmatrix}$

2. $\begin{bmatrix} 1 & 7 \\ -5 & -3 \end{bmatrix}$

3. $\begin{bmatrix} \frac{2}{3} & -4 \\ \frac{1}{2} & 9 \end{bmatrix}$

Evaluate the determinant of the matrix.

4. $\begin{bmatrix} 5 & -8 & 4 \\ 4 & 2 & 1 \\ 1 & 1 & -5 \end{bmatrix}$

5. $\begin{bmatrix} 0 & 3 & 2 \\ 10 & 14 & 2 \\ 1 & -1 & 6 \end{bmatrix}$

6. $\begin{bmatrix} 1 & 20 & 1 \\ 0 & 5 & 1 \\ 1 & 15 & -4 \end{bmatrix}$

7. $\begin{bmatrix} 13 & 4 & -7 \\ 1 & 3 & 4 \\ 0 & 1 & -2 \end{bmatrix}$

8. $\begin{bmatrix} 10 & 7 & -8 \\ 4 & 2 & 5 \\ 3 & -2 & -5 \end{bmatrix}$

9. $\begin{bmatrix} 1 & 4 & -2 \\ 0 & 3 & 0 \\ -5 & 0 & 5 \end{bmatrix}$

Use Cramer's rule to solve the system of equations.

10. $\begin{cases} 2x + y = 9 \\ 2x + 3y = 19 \end{cases}$

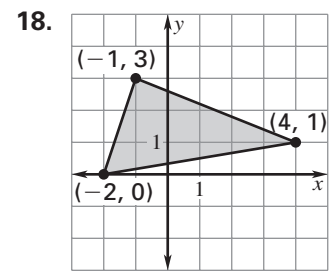
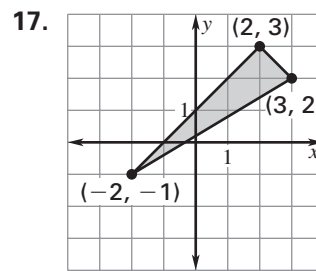
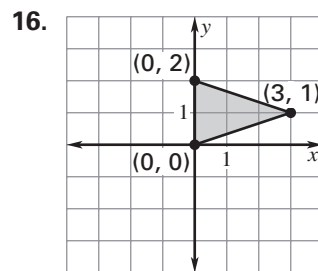
11. $\begin{cases} -6x + 11y = 5 \\ -6x + 5y = -1 \end{cases}$

12. $\begin{cases} x + 7y = 39 \\ 2x + 9y = 48 \end{cases}$

13. $\begin{cases} 2x - 2y + 5z = 1 \\ -8x + z = -6 \\ x + y - 2z = 1 \end{cases}$

14. $\begin{cases} x - y + 2z = 6 \\ -2x + 3y - z = -7 \\ 3x + 2y + 2z = 5 \end{cases}$

15. $\begin{cases} 2x + y - 3z = 0 \\ 3x - 2y + z = -7 \\ 2x + 2y - z = 2 \end{cases}$

Use a determinant to find the area of the triangle.**Electoral Votes** In Exercises 19–22, use the following information.

In the 1968 presidential election, 538 electoral votes were cast. Of these, x went to Richard M. Nixon, y went to Hubert H. Humphrey, and z when to George C. Wallace. The value of x is 110 more than y . The value of y is 145 more than z .
(Source: 1997 Information Please Almanac)

19. Write an equation involving the variables x , y , and z , that represents the total number of electoral votes.
20. Write an equation that relates the number of electoral votes received by Nixon, x , to the number of electoral votes received by Humphrey, y .
21. Write an equation that relates the number of electoral votes received by Nixon, x , to the number of electoral votes received by Wallace, z .
22. Use Cramer's rule to find the values of x , y , and z .