

Get Ready!

Lesson 1-3

Evaluating Expressions

Evaluate $ad - bc$ for the given values of the variables.

1. $a = -1, b = -2, c = 5, d = 4$

2. $a = \frac{1}{2}, b = -1, c = -\frac{2}{3}, d = 2$

3. $a = 2, b = \frac{1}{2}, c = \frac{1}{4}, d = -\frac{1}{8}$

4. $a = -\frac{1}{3}, b = \frac{1}{2}, c = \frac{1}{4}, d = -\frac{2}{3}$

Lesson 3-6

Identifying Matrix Elements

Identify the indicated element.

$$A = \begin{bmatrix} 2 & -1 & 3 \\ 5 & 7 & -9 \\ 4 & 11 & 21 \end{bmatrix}$$

5. a_{23}

6. a_{32}

7. a_{13}

Lessons 3-2
and 3-6

Solving Systems of Equations

Solve each system.

8.
$$\begin{cases} -2x + y = -5 \\ 4x + y = -2 \end{cases}$$

9.
$$\begin{cases} 4x - y = -2 \\ -\frac{1}{2}x - y = 1 \end{cases}$$

10.
$$\begin{cases} 3x + y = 5 \\ -x + y = 2 \end{cases}$$

11.
$$\begin{cases} x + y + z = 10 \\ 2x - y = 5 \\ y - z = 15 \end{cases}$$

12.
$$\begin{cases} -x + y + 2z = 16 \\ 2x - 2y - 2z = -16 \\ x + y = 0 \end{cases}$$

13.
$$\begin{cases} -2x + 3y + z = 1 \\ x - 3z = 7 \\ -y + z = -5 \end{cases}$$



Looking Ahead Vocabulary

14. The local museum store sells books, postcards, and gifts. There are different prices for museum members and nonmembers. At the end of each month, the numbers of items sold in each category are recorded in a table, or *matrix*. Make a sketch of what one of these might look like for one month.
15. Suppose you have the twelve tables, one for each month, of the museum's sales in the previous problem. These can be combined using *matrix addition* to determine the total number of items sold in each category during the year. Describe how this is done. Use several examples like the one you made in the previous problem to see if your method works.