**SKILLS** Objective C

In 1–8, a. write the matrix form of the system, and b. solve the system.

1. \[
\begin{align*}
3x - 4y &= -9 \\
8x - 10y &= -20
\end{align*}
\]
   a. 
   b. 

2. \[
\begin{align*}
4x + 3y &= 0 \\
2x + y &= 6
\end{align*}
\]
   a. 
   b. 

3. \[
\begin{align*}
3a - 4b + 6c &= 1 \\
2a + 4b - 8c &= 14 \\
9a - 10b + 5c &= 7
\end{align*}
\]
   a. 
   b. 

4. \[
\begin{align*}
2g + 7h &= 27 \\
6g + 21h &= 81
\end{align*}
\]
   a. 
   b. 

5. \[
\begin{align*}
4.2g + 5 &= 64.1 \\
-5g - 2h &= -52.2
\end{align*}
\]
   a. 
   b. 

6. \[
\begin{align*}
3x + 4y - 7z &= -11 \\
x + y &= -8
\end{align*}
\]
   a. 
   b. 

7. \[
\begin{align*}
-11r + 1.5s &= 46.9 \\
10r - 3.1s &= -56.18
\end{align*}
\]
   a. 
   b. 

8. \[
\begin{align*}
2x + 3y - 4z &= 37 \\
9x - 2y + z &= -82 \\
-11x + 5y - 7z &= 165
\end{align*}
\]
   a. 
   b.
5-6B

PROPERTIES Objective D

9. What is true of the coefficient matrix of every linear system that has exactly one solution?

10. True or False If the determinant of the coefficient matrix of a linear system is zero, then the only possibility is for the system to have no solution(s).

USES Objective F

11. Half a watermelon and a half pound of cherries together cost $3.09. A whole watermelon and two pounds of cherries together cost $8.16.
   a. Write a system of equations that can be used to find the cost of each type of fruit.
   b. Use matrices to solve the system and find the cost of each type of fruit.

12. For the Summer Rock Festival, there is one price for children, one for adults, and another for senior citizens. The Rueda family bought 3 children tickets and 2 adult tickets for $104. The Costas family bought 5 children tickets, 1 adult ticket, and 2 senior tickets for $155. The Dorian family bought 2 of each for $126.
   a. Write a system of equations that can be used to find the cost of each ticket.
   b. Use matrices to solve the system and find the cost of each ticket.

13. At ABC MEDIA, all DVDs, all new CDs, and all used CDs have standard prices. One DVD, one new CD, and two used CDs cost $27.00. Two of each cost $47.00. Two DVDs and three new CDs cost $47.75. Find the cost of each item.
   DVD _______________ New CD _______________ Used CD _______________