Name _____

5-6B **Lesson Master**

SKILLS Objective C

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

1. $\begin{cases} 3x - 4y = -9 \\ 8x - 10y = -20 \end{cases}$

2. $\begin{cases} 4x + 3y = 0 \\ 2x + y = 6 \end{cases}$

a. _____

b. _____

a. _____

b. _____

3. $\begin{cases} 3a - 4b + 6c = 1 \\ 2a + 4b - 8c = 14 \\ 9a - 10b + 5c = 7 \end{cases}$

4. $\begin{cases} 2g + 7h = 27 \\ 6g + 21h = 81 \end{cases}$

a. _____

b. _____

a. _____

b. _____

5. $\begin{cases} 4.2g + 5 = 64.1 \\ -5g - 2h = -52.2 \end{cases}$

6. $\begin{cases} 3x + 4y - 7z = -11 \\ 5x - y + z = -36 \\ x + y = -8 \end{cases}$

a. _____

b. _____

a. _____

b. _____

7. $\begin{cases} -11r + 1.5s = 46.9 \\ 10r - 3.1s = -56.18 \end{cases}$

8. $\begin{cases} 2x + 3y - 4z = 37 \\ 9x - 2y + z = -82 \\ -11x + 5y - 7z = 165 \end{cases}$

a. _____

b. _____

a. _____

b. _____

Name _____

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.

   Watermelon _____   Cherries _____

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.

   Children _____   Adults _____   Seniors _____

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 _____