

Name _____

10-8A Lesson Master

Questions on SPUR Objectives

See pages 650–653 for objectives.

SKILLS Objective D

In 1–3, match each system of equations to its system in matrix form.

1. $\begin{cases} x + 2y = 5 \\ 3x - 4y = 25 \end{cases}$ _____

2. $\begin{cases} x + 3y = 5 \\ 2x - 4y = 25 \end{cases}$ _____

3. $\begin{cases} x + 2y = 5 \\ 3x + 4y = 25 \end{cases}$ _____

A $\begin{bmatrix} 1 & 2 \\ 3 & -4 \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} 5 \\ 25 \end{bmatrix}$

B $\begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} 5 \\ 25 \end{bmatrix}$

C $\begin{bmatrix} 1 & 3 \\ 2 & -4 \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} 5 \\ 25 \end{bmatrix}$

4. Consider the system $\begin{cases} 7x - 3y = 23 \\ 4x + y = 43 \end{cases}$.

a. Write the matrix form of the system. _____

b. Use technology to find the inverse of the coefficient matrix. _____

c. Solve the system. _____

In 5 and 6, use matrices to solve the system.

5. $\begin{cases} 8x - 4y = 80 \\ x - 6.5y = 10 \end{cases}$

6. $\begin{cases} 3m + 6n = -18 \\ -m + 3n = -19 \end{cases}$

7. On a math test, there were multiple choice and show-your-work problems. Nanette got 7 multiple choice problems correct and 6 show-your-work problems correct. She received 62 points on the test. Zach got 9 multiple choice problems correct and 5 show-your-work problems correct. He received 58 points on the test.

a. Write a system of equations to represent the problem. _____

b. Write the system in matrix form. _____

c. Solve the system. Explain what the solution means. _____

d. If the test had 10 multiple choice problems and 6 show-your-work problems, how many total points was the test worth? _____