Name _____ Date _____

Do #1-6

In Exercises 1–4, solve the system using the elimination method.

1. $3x - y + z = -1$
$3x + 2y - 5z = -16$
$3x + 3y + 2z = 6$

2. $4x + 3y - 5z = -9$
$6x + 6y - 3z = 6$
$3x - 3y + 4z = 19$

3. $x - y - z = 5$
$4x - 4y - 4z = 15$
$3x - y - 4z = -2$

4. $-x + y + z = 3$
$x + y + 3z = 5$
$3y + 6z = 12$

5. Describe and correct the error in the first step of solving the system of linear equations.

$5x + 3y - z = 15$
$-x + 2y + 3z = 10$
$3x - 4y + 3z = 8$

$$\times \quad \begin{array}{r} -15x - 9y - 3z = 45 \\ 3x - 4y + 3z = 8 \\ \hline -12 - 13y = 53 \end{array}$$

6. Three orders are placed at a food truck. One sandwich, a juice, and a fruit cup cost $9; two sandwiches, a juice, and two fruit cups cost $16.50; and three sandwiches, two juices, and a fruit cup cost $19. How much does each item cost?

In Exercises 7 and 8, solve the system of linear equations using the substitution method.

7. $2x - y = 6$
$4x - 3y - 2z = 14$
$-x + 2y - 3z = 12$

8. $6x + 3y - 9z = 10$
$-2x - y + 3z = 3$
$x - 2y - z = 1$

9. Your friend claims that she has a bag of 30 coins containing nickels, dimes, and quarters. The total value of the 30 coins is $3. There are twice as many nickels as there are dimes. Is your friend correct? Explain your reasoning.

10. Find the values of a, b, and c so that the linear system shown has $(2, -1, -4)$ as its only solution. Explain your reasoning.

$x + 3y - z = a$
$2x - 5y + 2z = b$
$-x + 8y - z = c$

Name _____ Date _____

12.1 Puzzle Time

Did You Hear About The Carrot Detective?

A	B	C	D	E	F
G	H				

Complete each exercise. Find the answer in the answer column. Write the word under
the answer in the box containing the exercise letter.

$\begin{bmatrix} -70 & 67 \\ -37 & -55 \end{bmatrix}$
CRIME

$\begin{bmatrix} -10 & -37 \\ 20 & -5 \end{bmatrix}$
SHE

$\begin{bmatrix} -52 & 44 \\ -91 & -13 \end{bmatrix}$
HOW

$\begin{bmatrix} -23 & 20 \\ -11 & -41 \end{bmatrix}$
TOP

$\begin{bmatrix} -41 & 34 \\ -9 & -12 \end{bmatrix}$
ROOT

$\begin{bmatrix} -50.3 & 39.4 \\ 11.2 & -21.5 \end{bmatrix}$
OF

$\begin{bmatrix} 60 \\ -9 \\ 0 \end{bmatrix}$
PLANT

Perform the indicated operation, if possible.

A. $\begin{bmatrix} -43 & -2 \\ 27 & 15 \end{bmatrix} + \begin{bmatrix} 33 & -35 \\ -7 & -20 \end{bmatrix}$

B. $\begin{bmatrix} 17 \\ 18 \end{bmatrix} + \begin{bmatrix} 33 & -39 \end{bmatrix}$

C. $\begin{bmatrix} -41 & 48 \\ -20 & -10 \end{bmatrix} - \begin{bmatrix} -29 & 19 \\ -17 & -45 \end{bmatrix}$

D. $\begin{bmatrix} -36 \\ 8 \\ 7 \end{bmatrix} + \begin{bmatrix} 24 \\ 17 \\ 7 \end{bmatrix}$

Use the given matrices to evaluate the expression.

$A = \begin{bmatrix} -5 & 6 \\ -13 & 4 \end{bmatrix}, B = \begin{bmatrix} -18 & 14 \\ 2 & -8 \end{bmatrix}, C = \begin{bmatrix} 3.7 & -2.6 \\ 5.2 & 2.5 \end{bmatrix}$

E. $A + 2B$ F. $3B + C$

G. $B - 2A + 10C$ H. $3A + 10C$

$\begin{bmatrix} -12 & 29 \\ -3 & 35 \end{bmatrix}$
TO

$\begin{bmatrix} 29 & -24 \\ 80 & 9 \end{bmatrix}$
EVERY

$\begin{bmatrix} 10 & -33 \\ 34 & -5 \end{bmatrix}$
CALLED

not possible
GOT

$\begin{bmatrix} 22 & -8 \\ 13 & 37 \end{bmatrix}$
CASE

$\begin{bmatrix} -32.3 & 25.4 \\ 9.2 & -13.5 \end{bmatrix}$
ARE

$\begin{bmatrix} -12 \\ 25 \\ 14 \end{bmatrix}$
THE

502 **Algebra 2**
Resources by Chapter

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