CHAPTER 4

NAME _____ DATE _____

Chapter Test A

For use after Chapter 4

Perform the indicated operation(s).

1. $\begin{bmatrix} 0 & 2 \\ 3 & 5 \end{bmatrix} + \begin{bmatrix} 2 & 0 \\ 5 & 3 \end{bmatrix}$

2. $-1\begin{bmatrix} 4 & -2 \\ 3 & 0 \end{bmatrix}$

3. $\begin{bmatrix} 8 & 4 \\ 7 & 1 \end{bmatrix} - \begin{bmatrix} 6 & 3 \\ 5 & 0 \end{bmatrix}$

4. $\begin{bmatrix} 6 & 1 \\ 0 & 2 \end{bmatrix}\begin{bmatrix} 1 & 1 \\ -5 & 3 \end{bmatrix}$

5. $\begin{bmatrix} -3 & 2 & -5 \\ 4 & -6 & 3 \end{bmatrix}\begin{bmatrix} 4 \\ 1 \\ 0 \end{bmatrix}$

Solve the matrix equation for *x* and *y*.

6. $\begin{bmatrix} 2 & -3 \\ 3 & -4 \end{bmatrix}\begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} -8 \\ -9 \end{bmatrix}$

7. $\begin{bmatrix} 0 & 1 \\ -1 & 4 \end{bmatrix}\begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} 2 \\ 9 \end{bmatrix}$

Evaluate the determinant of the matrix.

8. $\begin{bmatrix} 1 & 2 \\ -2 & -1 \end{bmatrix}$

9. $\begin{bmatrix} 9 & -5 \\ 7 & 8 \end{bmatrix}$

10. $\begin{bmatrix} -1 & 2 & -3 \\ 2 & 0 & 1 \\ 3 & -4 & 4 \end{bmatrix}$

Find the area of the triangle with the given vertices.

11. $A(-3, 4), B(2, -1), C(6, 3)$

12. $A(4, 2), B(2, -2), C(-2, 5)$

Use Cramer's rule to solve the linear system.

13. $x + y = 15$
$-x + y = 3$

14. $2x + 3y = 7$
$3x - y = 5$

15. $x - 2y = 14$
$y + 2z = 11$
$2x + z = 16$

Answers

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

14. _____

15. _____

Review and Assess

NAME _____ DATE _____

Chapter Test A

For use after Chapter 4

Find the inverse of the matrix.

16. $\begin{bmatrix} 3 & 5 \\ 1 & 2 \end{bmatrix}$ **17.** $\begin{bmatrix} -4 & -3 \\ 3 & 2 \end{bmatrix}$ **18.** $\begin{bmatrix} 1 & 4 \\ 2 & 9 \end{bmatrix}$

Solve the matrix equation.

19. $\begin{bmatrix} -5 & -13 \\ 2 & 5 \end{bmatrix} X = \begin{bmatrix} 3 & 1 \\ -4 & 0 \end{bmatrix}$ **20.** $\begin{bmatrix} 11 & 5 \\ 2 & 1 \end{bmatrix} X = \begin{bmatrix} 4 & -1 \\ 2 & 0 \end{bmatrix}$

Use an inverse matrix to solve the linear system.

21. $5x + 6y = 14$
$4x - y = 17$

22. $3x - 2y = 6$
$x + y = 2$

23. ***Decoding*** Use the inverse of

$$A = \begin{bmatrix} -1 & 2 \\ 2 & -3 \end{bmatrix}$$

to decode the message below.

$-9, 23, -6, 16, 26, -39, 13, -12, 45, -65$

24. ***Numbers*** Solve using any method. In a certain two digit number, the units digit is 24 less than 3 times the sum of the digits. If the digits are reversed, the new number is 18 more than the original number. Find the two digit number.

16. _____

17. _____

18. _____

19. _____

20. _____

21. _____

22. _____

23. _____

24. _____