

Name: _____

Algebra 2
Unit 4 Test Recovery

1. $\begin{bmatrix} \$40 & \$13 \\ \$18 & \$14 \\ \$30 & \$12 \end{bmatrix}$ What are the dimensions of this matrix?

2. What are the dimensions of the matrix $\begin{bmatrix} 1 \\ 2 \\ 3 \end{bmatrix}$

3. How many elements are there in a 2 x 3 matrix?

For problems 4 – 6, use the following matrices. $A = \begin{bmatrix} 1 & -4 & 3 \\ 7 & 3 & -2 \end{bmatrix}$ and $B = \begin{bmatrix} 1 & 4 & 0 \\ -3 & 2 & 2 \end{bmatrix}$

4. Find $A + B$

5. Find $B - A$

6. Find AB

7. Find $\det \begin{bmatrix} 4 & 8 \\ 1 & 2 \end{bmatrix}$.

8. $Q = \begin{bmatrix} 4 & -3 \\ 3 & -2 \end{bmatrix}$ and $R = \begin{bmatrix} 6 & 2 & 2 \\ 0 & -1 & 6 \end{bmatrix}$ Find QR .

9. Solve the matrix equation for x . $\begin{bmatrix} 6 & x \\ y & 8 \end{bmatrix} = \begin{bmatrix} 6 & 2 \\ 7 & z \end{bmatrix}$

10. Solve the matrix equation in #9 for y .

11. If $A \cdot B = \begin{bmatrix} 3 & 2 & 9 & 7 \\ 5 & 1 & 0 & 6 \end{bmatrix}$ and A is a 2 x 3 matrix, what are the dimensions of B ?

12. Evaluate $\begin{bmatrix} -3 & -1 \\ -5 & -2 \end{bmatrix} \cdot \begin{bmatrix} -5 \\ 4 \end{bmatrix}$

13. Find the determinant of $\begin{bmatrix} 0 & 4 \\ 1 & 2 \end{bmatrix}$

14. Let $A = \begin{bmatrix} 2 & -1 \\ -7 & -10 \end{bmatrix}$. Find A^{-1} by hand and on your calculator.

15. Find the inverse of $A = \begin{bmatrix} 1 & -7 \\ -1 & 7 \end{bmatrix}$.

16. Find the inverse of the following matrix $\begin{bmatrix} -1 & 1 \\ 3 & 6 \end{bmatrix}$.

17. What is the solution to the system

$$5x - 7y = -16$$

$$6x - 4y = 16$$

18. Identify the 2 x 2 and 3 x 3 identity matrix.

19. Solve the following system of equations

$$-4x - 5y + z = -10$$

$$5x - 2y - 6z = 22$$

$$x + 3y + 5z = -8$$

20. Solve the following system of equations

$$5x - 3y - 3z = 13$$

$$-3x - 2y - 6z = -27$$

$$-4x + 6y + z = -1$$