NAME:_____

1. Solve each equation for each variable.

$$\begin{bmatrix} -7 & 2t-6 \\ -9 & 5 \end{bmatrix} = \begin{bmatrix} -7 & 7t-9 \\ -9 & 6y+8 \end{bmatrix}$$

[A] $t = \frac{1}{5}; y = -\frac{5}{2}$ [B] $t = \frac{3}{5}; y = -\frac{1}{2}$

[C] $t = \frac{3}{5}; y = -\frac{5}{2}$ [D] $t = \frac{1}{5}; y = -\frac{1}{2}$

2. Solve each equation for each variable.

$$\begin{bmatrix} -8 & 2t+5 \\ -5 & -9 \end{bmatrix} = \begin{bmatrix} -8 & 4t-7 \\ -5 & 5y-7 \end{bmatrix}$$

[A] $t = \frac{13}{2}; y = -\frac{2}{5}$ [B] $t = 6; y = -\frac{1}{5}$

[C] $t = 6; y = -\frac{2}{5}$ [D] $t = \frac{13}{2}; y = -\frac{1}{5}$

3. Solve each equation for each variable.

$$\begin{bmatrix} 7 & 6t-3 \\ -3 & 3 \end{bmatrix} = \begin{bmatrix} 7 & 9t-8 \\ -3 & 6y-5 \end{bmatrix}$$

[A] $t = \frac{5}{3}; y = \frac{4}{3}$ [B] $t = -\frac{10}{3}; y = 2$

[C] $t = -\frac{10}{3}; y = \frac{4}{3}$ [D] $t = \frac{5}{3}; y = 2$

4. Solve each equation for each variable.

$$\begin{bmatrix} -2 & 8t+7 \\ 8 & -8 \end{bmatrix} = \begin{bmatrix} -2 & 3t+6 \\ 8 & 2y-1 \end{bmatrix}$$

[A] $t = -\frac{1}{5}; y = -\frac{1}{2}$ [B] $t = -\frac{9}{5}; y = -\frac{7}{2}$

[C] $t = -\frac{1}{5}; y = -\frac{7}{2}$

[D] $t = -\frac{9}{5}; y = -\frac{1}{2}$

5. Solve each equation for each variable.

$$\begin{bmatrix} 4x+9 & 1 \\ 5 & 3m+6 \end{bmatrix} = \begin{bmatrix} 1 & 1 \\ 5 & 2m+7 \end{bmatrix}$$

6. Solve each equation for each variable.

$$\begin{bmatrix} 9x-3 & 9 \\ 2 & 9m+9 \end{bmatrix} = \begin{bmatrix} -5 & 9 \\ 2 & 5m-3 \end{bmatrix}$$

7. Solve each equation for each variable.

$$\begin{bmatrix} 9x+1 & -8 \\ -1 & 5m+7 \end{bmatrix} = \begin{bmatrix} -6 & -8 \\ -1 & 6m-5 \end{bmatrix}$$

8. Solve each equation for each variable.

$$\begin{bmatrix} 6x-2 & -2 \\ 3 & 9m-2 \end{bmatrix} = \begin{bmatrix} 5 & -2 \\ 3 & 5m+8 \end{bmatrix}$$

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9. Compare the quantity in Column A with the quantity in Column B.

$$\begin{bmatrix} 5x-1 & 6 \\ -2 & -3 \end{bmatrix} = \begin{bmatrix} -11 & 6 \\ -2 & 2y+3 \end{bmatrix}$$

Column A	Column B
x	y

[A] The quantity in Column A is greater. [B] The quantity in Column B is greater.

[C] The two quantities are equal.

[D] The relationship cannot be determined on the basis of the information supplied.

10. Solve for X. Use a graphing calculator.

$$\begin{bmatrix} -3.4 & -5.2 & 8.1 \\ 2.7 & -6.4 & 3.9 \end{bmatrix} - X = \begin{bmatrix} 4.3 & -3.5 & 1.2 \\ -2.8 & 4.3 & -1.9 \end{bmatrix}$$

11. Solve for matrix X.

$$X - \begin{bmatrix} 3 & 2 \\ -4 & 7 \end{bmatrix} = \begin{bmatrix} -8 & 4 \\ 0 & -3 \end{bmatrix}$$

[A] $\begin{bmatrix} -5 & 7 \\ -4 & -7 \end{bmatrix}$ [B] $\begin{bmatrix} 0 & 2 \\ 0 & 10 \end{bmatrix}$ [C] $\begin{bmatrix} 3 & 2 & -8 & 4 \\ -4 & 7 & 0 & -3 \end{bmatrix}$ [D] $\begin{bmatrix} 11 & 6 \\ 4 & 10 \end{bmatrix}$ [E] $\begin{bmatrix} -5 & 6 \\ -4 & 4 \end{bmatrix}$

12. Use a graphing calculator to solve this matrix equation.

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

13. Write a matrix equation with the answers $x = -3$, $y = 0.4$, and $z = 5$.

[1] B

[2] C

[3] A

[4] C

[5] $x = -2$; $m = 1$

[6] $x = -\frac{2}{9}$; $m = -3$

[7] $x = -\frac{7}{9}$; $m = 12$

[8] $x = \frac{7}{6}$; $m = \frac{5}{2}$

[9] A

[10] $X = \begin{bmatrix} -7.7 & -1.7 & 6.9 \\ 5.5 & -10.7 & 5.8 \end{bmatrix}$

[11] E

[12] $\begin{bmatrix} 1.5 & -0.3 & 1.4 \\ 1.5 & -0.5 & 1 \\ 2.5 & -0.1 & -0.2 \end{bmatrix}$

[13] Answers will vary. Sample:
$\begin{bmatrix} 2x+5 & z-12 \\ 6 & 8 \end{bmatrix} = \begin{bmatrix} -1 & -7 \\ 6 & 20y \end{bmatrix}$