

Algebra 1

Practice Quiz 6.4-6.6

NAME KEY

Solve each system of equations by Elimination. (3 Points)

$$\begin{array}{r}
 1. \quad 3x + 2y = 9 \\
 -3(x + 3y = 10) \\
 \hline
 -3x - 9y = -30 \\
 \hline
 -7y = -21 \\
 y = 3 \\
 x + 3(3) = 10 \\
 x + 9 = 10 \\
 x = 1
 \end{array}$$

$$\begin{array}{r}
 3. \quad 3x - 2y = 7 \\
 -3(x - 5y = -2) \\
 \hline
 -3x + 15y = 6 \\
 \hline
 13y = 13 \\
 y = 1 \\
 3x - 2(1) = 7 \\
 3x - 2 = 7 \\
 3x = 9 \\
 x = 3
 \end{array}$$

$$\begin{array}{r}
 5. \quad 5x + 2y = 6 \\
 -5(3x + 5y = 15) \\
 \hline
 15x + 6y = 18 \\
 -15x - 25y = -75 \\
 \hline
 -19y = -57 \\
 y = 3 \\
 3x + 5(3) = 15 \\
 3x + 15 = 15 \\
 3x = 0 \\
 x = 0
 \end{array}$$

$$\begin{array}{r}
 7. \quad 3x - 6y = -3 \\
 -3(2x + 4y = 30) \\
 \hline
 6x - 12y = -6 \\
 -6x - 12y = -90 \\
 \hline
 -24y = -96 \\
 y = 4 \\
 3x - 6(4) = -3 \\
 3x - 24 = -3 \\
 3x = 21 \\
 x = 7
 \end{array}$$

$$\begin{array}{r}
 2. \quad 3x - y = 1 \\
 2x - 4y = -16 \\
 \hline
 -12x + 4y = -4 \\
 \hline
 -10x = -20 \\
 x = 2 \\
 3(2) - y = 1 \\
 6 - y = 1 \\
 -y = -5 \\
 y = 5
 \end{array}$$

$$\begin{array}{r}
 4. \quad 3x + 2y = 16 \\
 -3(4x - 5y = 6) \\
 \hline
 12x + 8y = 64 \\
 -12x + 15y = -18 \\
 \hline
 23y = 46 \\
 y = 2 \\
 3x + 2(2) = 16 \\
 3x + 4 = 16 \\
 3x = 12 \\
 x = 4
 \end{array}$$

$$\begin{array}{r}
 6. \quad 2x + 3y = 10 \\
 -2(3x - 4y = -19) \\
 \hline
 6x + 9y = 30 \\
 -6x + 8y = 38 \\
 \hline
 17y = 68 \\
 y = 4 \\
 2x + 3(4) = 10 \\
 2x + 12 = 10 \\
 2x = -2 \\
 x = -1
 \end{array}$$

$$\begin{array}{r}
 8. \quad 3x - 3y = -15 \\
 -3(4x - 2y = -19) \\
 \hline
 12x - 12y = -60 \\
 -12x + 6y = 57 \\
 \hline
 -6y = -3 \\
 y = \frac{1}{2} \\
 4x - 2(\frac{1}{2}) = -19 \\
 4x - 1 = -19 \\
 4x = -18 \\
 x = -\frac{18}{4} = -\frac{9}{2}
 \end{array}$$

1. (1, 3)

2. (2, 5)

3. (3, 1)

4. (4, 2)

5. (0, 3)

6. (-1, 4)

7. (-7, 4)

8. (-\frac{9}{2}, \frac{1}{2})

Points (24) _____

State the dimensions of each matrix. (2 Points)

7. $\begin{bmatrix} -2 & 5 & 6 \\ 4 & -1 & 7 \end{bmatrix}$

2×3

8. $\begin{bmatrix} -20 \\ 16 \\ 9 \end{bmatrix}$

3×1

Perform the indicated matrix operations. (3 Points)

9. $\begin{bmatrix} 1 & 5 & -3 \\ 4 & -3 & 7 \end{bmatrix} + \begin{bmatrix} 6 & -2 & 3 \\ 1 & 8 & 5 \end{bmatrix}$

$\begin{bmatrix} 7 & 3 & 0 \\ 5 & 5 & 12 \end{bmatrix}$

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

$\begin{bmatrix} 2 & 10 \\ -12 & 10 \end{bmatrix}$

11. $\begin{bmatrix} 4 & 7 & -3 \\ 5 & -6 & 4 \end{bmatrix} - \begin{bmatrix} 5 & -3 & 1 \\ 0 & 6 & 2 \end{bmatrix}$

$\begin{bmatrix} -1 & 10 & -4 \\ 5 & -12 & 2 \end{bmatrix}$

12. $\begin{bmatrix} 2 & 3 \\ -1 & -2 \end{bmatrix} - \begin{bmatrix} -9 & 3 \\ -2 & 7 \end{bmatrix}$

$\begin{bmatrix} 11 & 0 \\ 1 & -9 \end{bmatrix}$

13. $2 \begin{bmatrix} 2 & 5 & -2 \\ 3 & -4 & 6 \end{bmatrix}$

$\begin{bmatrix} 4 & 10 & -4 \\ 6 & -8 & 12 \end{bmatrix}$

14. $3 \begin{bmatrix} 4 & 5 \\ -3 & 1 \end{bmatrix} - \begin{bmatrix} -7 & 6 \\ -2 & 9 \end{bmatrix}$

$\begin{bmatrix} 12 & 15 \\ -9 & 3 \end{bmatrix} - \begin{bmatrix} -7 & 6 \\ -2 & 9 \end{bmatrix}$

$\begin{bmatrix} 19 & 9 \\ -7 & -6 \end{bmatrix}$

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

14. _____

Points (22) _____