

Solve each system using Elimination. Show all work!!

$$10. \begin{array}{r} 4x - y = 2 \\ 3x + y = 12 \\ \hline 7x = 14 \end{array}$$

$$x = 2$$

$$3(2) + y = 12$$

$$\begin{array}{r} 6 + y = 12 \\ -6 \quad -6 \\ y = 6 \end{array}$$

$$(2, 6)$$

$$11. \begin{array}{r} 2x + 3y = -2 \\ -1(5x + 3y = -14) -5x - 3y = 14 \\ \hline -3x = 12 \end{array}$$

$$\begin{array}{r} -3 \\ \hline -3 \\ x = -4 \end{array}$$

$$2(-4) + 3y = -2$$

$$\begin{array}{r} -8 + 3y = -2 \\ +8 \quad +8 \\ 3y = 6 \\ y = 2 \end{array}$$

$$(-4, 2)$$

$$12. \begin{array}{r} 9x + 2y = 5 \\ 2(3x - y = -10) \\ \hline 6x - 2y = -20 \end{array}$$

$$15x = -15$$

$$x = -1$$

$$9(-1) + 2y = 5$$

$$\begin{array}{r} -9 + 2y = 5 \\ +9 \quad +9 \\ 2y = 14 \end{array}$$

$$y = 7$$

$$(-1, 7)$$

$$13. \begin{array}{r} x + 8y = 0 \\ -x + y = 14 \\ \hline 7y = -14 \\ y = -2 \end{array}$$

$$\begin{array}{r} x + (-2) = 14 \\ +2 \quad +2 \\ x = 16 \end{array}$$

$$(16, -2)$$

$$14. \begin{array}{r} 2x + 4y = 12 \\ -3x + 3y = 63 \\ \hline -x + 12y = 36 \\ -6x + 6y = 126 \\ \hline 18y = 162 \\ \hline y = 9 \end{array}$$

$$2x + 4(9) = 12$$

$$\begin{array}{r} 2x + 36 = 12 \\ -36 \quad -36 \end{array}$$

$$\begin{array}{r} 2x = -24 \\ x = -12 \end{array}$$

$$(-12, 9)$$

$$15. \begin{array}{r} 10x - 2y = 22 \\ -25x + 5y = 25 \\ \hline 50x - 10y = 110 \\ -50x + 10y = 50 \\ \hline 0 \neq 160 \end{array}$$

False $0 \neq 160$

No Solutions

$$16. \begin{array}{r} 4y - 3x = 72 \\ 8y - 6x = 64 \\ -8y + 6x = -144 \\ \hline 0 \neq -80 \end{array}$$

False

No Sol

$$17. \begin{array}{r} -x + 4y = -24 \\ 3x - 12y = 72 \\ \hline -3x + 12y = -84 \\ 3x - 12y = 72 \\ \hline 0 = 0 \text{ True} \end{array}$$

TR

$$\begin{array}{r} x = 8 \\ y = -2 \end{array}$$

$$(8, -2)$$

