

7.5 Solve Special Types of Linear Systems

Date: _____

Possible Solutions:

If the lines are ||, then there is not a solution.

If the lines are the same, then the solution is Infinitely Many Solutions.

*No Solution *Infinitely Many Solutions

Be sure to line up your corresponding variables. Rearranging may be necessary.

Ex. 1: Solve the linear system:

$$\begin{array}{r} -1(3x + 2y = 10) \quad -3x - 2y = -10 \\ 3x + 2y = 2 \quad \quad \quad \underline{3x + 2y = 2} \\ \hline 0 = -8 \end{array}$$

Solution: No Solution

Ex. 2: Solve the linear system:

$$x - 2y = -4$$

$$y = \frac{1}{2}x + 2$$

$$\begin{array}{r} x - 2\left(\frac{1}{2}x + 2\right) = -4 \\ \underline{x - x - 4 = -4} \\ -4 = -4 \end{array}$$

Solution: IMS

Ex. 3: Solve the linear system:

$$\begin{array}{r} 5x + 3y = 6 \\ -5x - 3y = 3 \\ \hline 0 = 9 \end{array}$$

Solution: No Solution

Ex. 4: Solve the linear system:

$$-6x + 3y = -12$$

$$y = \boxed{2x - 4}$$

$$-6x + 3(2x - 4) = -12$$

$$-6x + 6x - 12 = -12$$

$$-12 = -12$$

Solution: IMS

Homework: