MAC 1105 *Instr: Jamieson*

Rockswold Ch 6.1 - 2

Dependent Linear Systems

Solve each system. If the system is dependent, represent its infinite solution set as (x, y(x)) where y is a specific linear function of x.

1. $\begin{cases} x - 2y = 3 \\ 2x - 4y = 6 \end{cases}$

2. $\begin{cases} 3x + 2y = 1 \\ 6x + 4y = 2 \end{cases}$

3. $\begin{cases} 5x - 3y = 1 \\ -10x + 6y = -2 \end{cases}$

4. $\begin{cases} 2x - 3y = 4 \\ -4x + 6y = -8 \end{cases}$

5. $\begin{cases} 2x + 3y = 4 \\ -4x - 6y = -8 \end{cases}$

6. $\begin{cases} x - 3y = 4 \\ -2x + 6y = -8 \end{cases}$

7. $\begin{cases} 2x - 5y = 4 \\ -4x + 10y = -8 \end{cases}$

8. $\begin{cases} 3x - 4y = 4 \\ -6x + 8y = -8 \end{cases}$

9. $\begin{cases} 7x - 3y = 4 \\ -14x + 6y = -8 \end{cases}$

10. $\begin{cases} 2x + 13y = 4 \\ -4x - 26y = -8 \end{cases}$

Answers:

1. $\left(x, \frac{3-x}{-2}\right)$

2. $\left(x, \frac{1-3x}{2}\right)$

3. $\left(x, \frac{1-5x}{-3}\right)$

4. $\left(x, \frac{4-2x}{-3}\right)$

5. $\left(x, \frac{4-2x}{3}\right)$

6. $\left(x, \frac{4-x}{-3}\right)$

7. $\left(x, \frac{4-2x}{-5}\right)$

8. $\left(x, \frac{1-3x}{-4}\right)$

9. $\left(x, \frac{1-7x}{-3}\right)$

10. $\left(x, \frac{4-2x}{13}\right)$