Systems Assignment

1. Solve the following using the addition/subtraction (linear combination) method.

a) $\begin{cases} 3x + y = 7 \\ 2x - 5y = -1 \end{cases}$

b) $\begin{cases} 2x + 8y = 7 \\ 3x + 12y = 5 \end{cases}$

c) $\begin{cases} 5x - 2y = 1 \\ 4x + 5y = 47 \end{cases}$

d) $\begin{cases} 3x - 7y = -12 \\ -5x + 6y = 3 \end{cases}$

2. Solve using the substitution method.

a) $\begin{cases} 3x - y = 13 \\ 2x \_ 3y = 16 \end{cases}$

b) $\begin{cases} 2x + y = 6 \\ 3x - 2y = 2 \end{cases}$

c) $\begin{cases} 3x - 2y = 1 \\ -2x + 4y = 7 \end{cases}$

d) $\begin{cases} 2x + 3b = 7 \\ 3x + 4b = 10 \end{cases}$

3. Solve using the graphic method.

a) $\begin{cases} 3x - y = 8 \\ x + y = 4 \end{cases}$

b) $\begin{cases} 2x - y = -1 \\ 3x + y = 6 \end{cases}$

c) $\begin{cases} 2x + y = -2 \\ 2x - 3y = 15 \end{cases}$

d) $\begin{cases} 3x + 5y = 15 \\ x - y = 4 \end{cases}$

4. Use the substitution method to solve:

a) $\begin{cases} x + y + z = 180 \\ y = 3x \\ z = 5x \end{cases}$

b) $\begin{cases} x + y + 2z = 1 \\ x - y = 1 \\ x - z = 2 \end{cases}$