

SISTEMAS LINEALES

1- Resolver los sistemas:

$$a) \begin{cases} 2x + y = 0 \\ 5x - 3 = 9y - 3 \end{cases}$$

$$c) \begin{cases} 2(3x - 2) = y - 1 \\ 3(x + y) + 2(x - y) = 8 \end{cases}$$

$$b) \begin{cases} \frac{x}{3} - \frac{y}{2} = 4 \\ \frac{x}{2} + \frac{y}{4} = 2 \end{cases}$$

$$d) \begin{cases} x + \frac{y-2}{4} = 1 \\ x - \frac{3}{2}y = 5 \end{cases}$$

Soluciones:

$$a) \ x = 0 \quad y = 0 \quad b) \ x = 6 \quad y = -4 \quad c) \ x = 1 \quad y = 3 \quad d) \ x = 2 \quad y = -2$$

2- Resolver los sistemas:

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

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

$$c) \begin{cases} \frac{2-x}{3} + \frac{3+y}{6} = 2 \\ \frac{8-3x}{6} - \frac{2+y}{9} = 2 \end{cases}$$

$$d) \begin{cases} \frac{x-1}{2} + \frac{y+1}{4} = 1 \\ \frac{2x-1}{2} - \frac{2y+1}{6} = 1 \end{cases}$$

Soluciones:

$$a) \ x = -9/2 \quad y = 2 \quad b) \ x = -1 \quad y = 1 \quad c) \ x = -2 \quad y = 1 \quad d) \ x = 2 \quad y = 1$$

SISTEMAS NO LINEALES

$$1- \begin{cases} y - x = 1 \\ x^2 + y^2 = 5 \end{cases}$$

$$\text{Soluc: } \begin{matrix} x=1 & y=2 \\ x=-2 & y=-1 \end{matrix}$$

$$2- \begin{cases} x^2 + xy + y^2 = 21 \\ x + y = 1 \end{cases}$$

$$\text{Soluc: } \begin{matrix} x=-4 & y=5 \\ x=5 & y=-4 \end{matrix}$$

$$3- \begin{cases} 2x - y + 1 = 0 \\ x^2 - 7 = y + 2 \end{cases}$$

$$\text{Soluc: } \begin{matrix} x=4 & y=7 \\ x=-2 & y=3 \end{matrix}$$

$$4- \begin{cases} \frac{1}{x} + \frac{1}{y} = 1 - \frac{1}{xy} \\ xy = 6 \end{cases}$$

$$\text{Soluc: } \begin{matrix} x=3 & y=2 \\ x=2 & y=3 \end{matrix}$$

$$5- \begin{cases} 3x + 2y = 0 \\ x(x - y) = 2y^2 - 8 \end{cases}$$

$$\text{Soluc: } \begin{matrix} x=2 & y=-3 \\ x=-2 & y=3 \end{matrix}$$

$$6- \text{ b) } \begin{cases} x^2 + y^2 = 1 \\ x + 2y = 0 \end{cases}$$

$$\text{sol: } \begin{cases} x = -\frac{2\sqrt{3}}{3} & y = \frac{\sqrt{3}}{3} \\ x = \frac{2\sqrt{3}}{3} & y = -\frac{\sqrt{3}}{3} \end{cases}$$