

Actividad 1

* Sistema de ecuaciones lineales

$$1. \begin{cases} x + 8y = 23 \\ x + y = 9 \end{cases}$$

$$R = \begin{cases} x = 7 \\ y = 2 \end{cases}$$

$$x + y = 9$$

$$y = 2$$

$$x + 8y - (x + y) = 23 - 9$$

$$x + 8y - x - y = 23 - 9$$

$$8y - y = 23 - 9$$

$$y = 2$$

$$x + 2 = 9$$

$$x = 7$$

$$R = \begin{cases} x = 7 \\ y = 2 \end{cases}$$

$$y = 2$$

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

$$x + 2y = 8$$

$$R = \begin{cases} x = 2 \\ y = 3 \end{cases}$$

$$3x - 4y = -6$$

$$y = 3$$

$$x = 8 - 2y$$

$$3(8 - 2y) - 4y = -6$$

$$y = 3$$

$$x = 8 - 2 \times 3$$

$$x = 2$$

Ejercicios (metodo de igualacion)

$$3. \quad -3x - 2y = 4$$

$$5x + 3y = 13$$

$$3x - 2y = 4$$

$$3x = 4 + 2y$$

$$x = \frac{4 + 2y}{3}$$

$$x = \frac{4 + 2y}{3}$$

$$x = \frac{4 + 2(1)}{3}$$

$$x = \frac{4 + 2}{3} = \frac{6}{3}$$

$$x = 2$$

$$y = 1$$

$$19y = 19$$

$$5x + 3y = 13$$

$$5x = 13 - 3y$$

$$x = \frac{13 - 3y}{5}$$

$$\frac{4 + 2y}{3} = \frac{13 - 3y}{5}$$

$$5(4 + 2y) = 3(13 - 3y)$$

$$10y + 19y = 39 - 9y$$

$$20 + 10y = 39 - 9y$$

$$20 + 19y = 39 - 9y$$

$$4. \quad 4x + 3y = -1$$

$$3x + 5y = -9$$

$$3(4x + 3y) = -1 \times 3$$

$$4(3x + 5y) = -9 \times 4$$

$$12x + 9y = -1 \times 3$$

$$4(3x + 5y) = -9 \times 4$$

$$12x + 9y - 3(12x + 9y) = -3$$

$$y = 2$$

$$12x + 9 = -3$$

$$12x + 20y = -36$$

$$12x + 9y - (12x + 20y) = -3 - 36$$

$$12x + 9y - 12x - 20y = -3 + 36$$

$$9y - 20y = -3 + 36$$

$$y = -3$$

Actividad 2.

Raíces de un polinomio de 2

Formula general

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

a) $x^2 - 16x + 63 = 0$

$$x^2 - 9x - 7x + 63 = 0$$

$$x(x-9) - 7(x-9) = 0$$

$$(x-9)(x-7) = 0$$

$$x-9 = 0, x-7 = 0$$

$$x = 9, x = 7$$

b) $2x^2 + 9x + 10 = 0$

$$2x^2 + 4x + 5x + 10 = 0$$

$$2x(x+2) + (5x+10) = 0$$

$$(x+2)(2x+5) = 0$$

$$x+2 = 0, 2x+5 = 0$$

$$x = -2, x = -\frac{5}{2}$$