

x	y
1	7,4
3	6,2
5	4,5
7	3,3
9	1,8
11	0

$x \cdot y$
7,4
18,6
22,5
23,1
16,2
0

x^2
1
9
25
49
81
121

Σ	x	y	$x \cdot y$	x^2
	36	23,2	87,8	286
	↓	↓		
	6	3,86666 Promedio		

$$a_1 = \frac{(6 \cdot 87,8) - (36 \cdot 23,2)}{(6 \cdot 286) - (36^2)} = -0,7342857143$$

$$a_0 = 3,866666667 - (-0,7342857143) \cdot 6 = 8,272380953$$

Equacion de la recta

$$y = 8,272380953 - 0,7342857143x$$

$$\left(\begin{array}{ccc|cc} 8 & 0 & 0 & 4 & 2 & 0 \\ 0 & 1 & 0 & -1/4 & -5/8 & 1/2 \\ 0 & 0 & 1 & -1/2 & 1/4 & 0 \end{array} \right) \quad 1/8 f_1$$

$$\left(\begin{array}{ccc|cc} 1 & 0 & 0 & 1/2 & 1/4 & 0 \\ 0 & 1 & 0 & -1/4 & -5/8 & 1/2 \\ 0 & 0 & 1 & -1/2 & 1/4 & 0 \end{array} \right)$$

Matriz inversa

$$\downarrow$$

$$A^{-1} = \begin{pmatrix} 1/2 & 1/4 & 0 \\ -1/4 & -5/8 & 1/2 \\ -1/2 & 1/4 & 0 \end{pmatrix}$$

$$2) A = \begin{pmatrix} 1 & 0 & -1 \\ 2 & 0 & 2 \\ 8 & 2 & -3 \end{pmatrix}$$

$$\left(\begin{array}{ccc|ccc} 1 & 0 & -1 & 1 & 0 & 0 \\ 2 & 0 & 2 & 0 & 1 & 0 \\ 8 & 2 & -3 & 0 & 0 & 1 \end{array} \right) f_1 \leftrightarrow f_3$$

$$\left(\begin{array}{ccc|ccc} 8 & 2 & -3 & 0 & 0 & 1 \\ \underline{2} & 0 & 2 & 0 & 1 & 0 \\ 1 & 0 & -1 & 1 & 0 & 0 \end{array} \right) -\frac{1}{4}f_1 + f_2$$

$$\left(\begin{array}{ccc|ccc} 8 & 2 & -3 & 0 & 0 & 1 \\ 0 & -\frac{1}{2} & \frac{1}{4} & 0 & 1 & -\frac{1}{4} \\ \underline{1} & 0 & -1 & 1 & 0 & 0 \end{array} \right) -\frac{1}{8}f_1 + f_3$$

$$\left(\begin{array}{ccc|ccc} 8 & 2 & -3 & 0 & 0 & 1 \\ 0 & -\frac{1}{2} & \frac{1}{4} & 0 & 1 & -\frac{1}{4} \\ 0 & \underline{-\frac{1}{4}} & -\frac{5}{8} & 1 & 0 & -\frac{1}{8} \end{array} \right) -\frac{1}{2}f_2 + f_3$$

$$\left(\begin{array}{ccc|ccc} 8 & 2 & -3 & 0 & 0 & 1 \\ 0 & -\frac{1}{2} & \frac{1}{4} & 0 & 1 & -\frac{1}{4} \\ 0 & 0 & \underline{-2} & 1 & -\frac{1}{2} & 0 \end{array} \right) -\frac{1}{2}f_3$$

$$\left(\begin{array}{ccc|ccc} 8 & 2 & -3 & 0 & 0 & 1 \\ 0 & -\frac{1}{2} & \frac{1}{4} & 0 & 1 & -\frac{1}{4} \\ 0 & 0 & 1 & -\frac{1}{2} & \frac{1}{4} & 0 \end{array} \right) -\frac{11}{4}f_3 + f_2$$

$$\left(\begin{array}{ccc|ccc} 8 & 2 & \underline{-3} & 0 & 0 & 1 \\ 0 & -\frac{1}{2} & 0 & \frac{11}{8} & \frac{3}{16} & -\frac{1}{4} \\ 0 & 0 & 1 & -\frac{1}{2} & \frac{1}{4} & 0 \end{array} \right) 3f_3 + f_1$$

$$\left(\begin{array}{ccc|ccc} 8 & 2 & 0 & -\frac{3}{2} & \frac{3}{4} & 1 \\ 0 & \underline{-\frac{1}{2}} & 0 & \frac{11}{8} & \frac{5}{16} & -\frac{1}{4} \\ 0 & 0 & 1 & -\frac{1}{2} & \frac{1}{4} & 0 \end{array} \right) -2f_2$$

$$\left(\begin{array}{ccc|ccc} 8 & \underline{2} & 0 & -\frac{3}{2} & \frac{3}{4} & 1 \\ 0 & 2 & 0 & -\frac{11}{4} & -\frac{5}{8} & \frac{1}{2} \\ 0 & 0 & 1 & -\frac{1}{2} & \frac{1}{4} & 0 \end{array} \right) -2f_2 + f_1$$

Parcial 3.

1).

$$\begin{pmatrix} 2 & 2 & -1 & 8 \\ 5 & 5 & 3 & 9 \\ 0 & 4 & -2 & 14 \end{pmatrix} f_1 \leftrightarrow f_2$$

$$\begin{pmatrix} 5 & 5 & 3 & 9 \\ 2 & 2 & -1 & 8 \\ 0 & 4 & -2 & 14 \end{pmatrix} f_1 \cdot \frac{2}{5} - f_2$$

$$\begin{pmatrix} 5 & 5 & 3 & 9 \\ 0 & 0 & -\frac{1}{5} & \frac{2}{5} \\ 0 & 4 & -2 & 14 \end{pmatrix} f_2 \leftrightarrow f_3$$

$$\begin{aligned} x_1 &= -\frac{1}{2} \\ x_2 &= \frac{5}{2} \\ x_3 &= -2 \end{aligned}$$

$$\begin{pmatrix} 5 & 5 & 3 & 9 \\ 0 & 4 & -2 & 14 \\ 0 & 0 & -\frac{1}{5} & \frac{2}{5} \end{pmatrix} f_3 \cdot -\frac{1}{5}$$

$$\begin{pmatrix} 5 & 5 & 3 & 9 \\ 0 & 4 & -2 & 14 \\ 0 & 0 & 1 & -2 \end{pmatrix} 2f_3 - f_2$$

$$\begin{pmatrix} 5 & 5 & 3 & 9 \\ 0 & 4 & 0 & 10 \\ 0 & 0 & 1 & -2 \end{pmatrix} 3f_3 - f_1$$

$$\begin{pmatrix} 5 & 5 & 0 & 15 \\ 0 & 4 & 0 & 10 \\ 0 & 0 & 1 & -2 \end{pmatrix} \frac{1}{4} f_2$$

$$\begin{pmatrix} 5 & 5 & 0 & 15 \\ 0 & 1 & 0 & \frac{5}{2} \\ 0 & 0 & 1 & -2 \end{pmatrix} 5f_2 - f_1$$

$$\begin{pmatrix} 5 & 0 & 0 & \frac{5}{2} \\ 0 & 1 & 0 & \frac{5}{2} \\ 0 & 0 & 1 & -2 \end{pmatrix} \frac{1}{5} f_1 \quad \begin{pmatrix} 1 & 0 & 0 & \frac{1}{2} \\ 0 & 1 & 0 & \frac{5}{2} \\ 0 & 0 & 1 & -2 \end{pmatrix}$$