

①

$$a_1 = \frac{6 \cdot 84,2 - 21 \cdot 28,1}{6 \cdot 91 - 21^2} = -0,80857142$$

$$a_0 = 4,68333333 - (-0,80857142 \cdot 3,5)$$

$$a_0 = 7,51333333$$

Ecuación

$$y = 7,51333333 - 0,80857142x //$$

$$S_t = 11,54833333$$

$$S_r = 0,10704761$$

$$S_y = \sqrt{\frac{S_t}{6-1}}$$

$$S_y = 1,51475875$$

$$\frac{S_y}{x} = \sqrt{\frac{S_r}{6-2}}$$

$$\frac{S_y}{x} = 0,16359065 //$$

$$r = \sqrt{\frac{S_t - S_r}{S_t}} \times 100$$

$$r = 99,53544449 \% //$$

	x	y	x*y	x^2	(y-py)^2	(y-a0-a1x)^2
	1	6,5	6,5	1	3,300277778	0,04192743979
	2	6	12	4	1,733611111	0,01077641437
	3	5,2	15,6	9	0,2669444444	0,01262947343
	4	4,4	17,6	16	0,08027777778	0,01462947097
	5	3,5	17,5	25	1,400277778	0,000871652995
	6	2,5	15	36	4,766944444	0,0262131675
Suma	21	28,1	84,2	91	11,54833333	0,107047619
Promedio	3,5	4,683333333				

a1= -0,80857142
a0= 7,51333333

② $y = a_0 + a_1x + a_2x^2$

$$na_0 + \sum x_i a_1 + \sum x_i^2 a_2 = \sum y_i$$

$$\sum x_i a_0 + \sum x_i^2 a_1 + \sum x_i^3 a_2 = \sum x_i y_i$$

$$\sum x_i^2 a_0 + \sum x_i^3 a_1 + \sum x_i^4 a_2 = \sum x_i^2 y_i$$

||

$$6a_0 + 21a_1 + 91a_2 = 78,1$$

$$21a_0 + 91a_1 + 441a_2 = 84,2$$

$$91a_0 + 441a_1 + 2275a_2 = 325,2$$

$$a_0 = 7,58195$$

$$a_1 = -0,83375$$

$$a_2 = \frac{1,93333}{7502,66666}$$

Ecuación

$$y = 7,58195 - 0,83375x + \frac{1,93333}{7502,66666}x^2$$

	x	y	x^2	x^3	x^4	x*y	x^2*y	St	Sr
	1	6,5	1	1	1	6,5	6,5	3,300277778	0,06224356327
	2	6	4	8	16	12	24	1,733611111	0,006464739289
	3	5,2	9	27	81	15,6	46,8	0,2669444444	0,01160372886
	4	4,4	16	64	256	17,6	70,4	0,08027777778	0,01754681988
	5	3,5	25	125	625	17,5	87,5	1,400277778	0,002984984906
	6	2,5	36	216	1296	15	90	4,766944444	0,01581748364
Sumatoria	21	28,1	91	441	2275	84,2	325,2	11,54833333	0,1166613198
		4,683333333							

Resuelto en:

<https://es.symbolab.com/solver/system-of-equations-calculator/6x%2B21y%2B91z%3D28.1%2C%2021x%2B91y%2B661z%3D84.2%2C%2091x%2B441y%2B2275z%3D325.2>

a0= 7,58195
a1= -0,83375
a2= 1,29E-03

$$S_t = 11,54833333$$

$$S_r = 0,11666131$$

$$S_y = \sqrt{\frac{S_t}{6-1}}$$

$$S_y = 1,51975875 //$$

$$\frac{S_y}{x} = \sqrt{\frac{S_r}{6-(2+1)}}$$

$$\frac{S_y}{x} = 0,19719813$$

$$r = \sqrt{\frac{S_t - S_r}{S_t}} \times 100$$

$$r = 98,9897996\% //$$

③

F F(X)

F(3,25)

x_0 3 2,5

x_1 4 2,2

$$\text{Grado 1} = \frac{x-4}{3-4} \cdot 2,5 + \frac{x-3}{4-3} \cdot 2,2$$

$$\text{Grado 1} = \frac{2,5x - 10}{-1} + \frac{2,2x - 6,6}{1}$$

$$F(x) = -0,3x + 3,4 // \Rightarrow F(3,25) = 2,425 //$$

	F	F(X)	
X ₀	2	3	F(3,25)
X ₁	3	2,5	
X ₂	4	2,2	

$$\text{Grado 2} = \frac{(x-3)(x-4)}{(2-3)(2-4)} 3 + \frac{(x-2)(x-4)}{(3-2)(3-4)} 2,5 + \frac{(x-2)(x-3)}{(4-2)(4-3)} 2,2$$

$$\text{Grado 2} = \frac{3x^2 - 21x + 36}{2} + \frac{-2,5x^2 + 15x - 20}{2} + \frac{11x^2 - 55x + 66}{10}$$

$$\text{Grado 2} = 0,1x^2 - 1x + 4,6 //$$

$$F(3,25) = 2,40625 //$$

④

X ₀	2	3	F(3,25)
X ₁	3	2,5	
X ₂	4	2,2	
X ₃	5	1,7	

$$= \frac{(3,25-3)(3,25-4)(3,25-5)}{(2-3)(2-4)(2-5)} 3 + \frac{(3,25-2)(3,25-4)(3,25-5)}{(3-2)(3-4)(3-5)} 2,5 + \frac{(3,25-2)(3,25-3)(3,25-5)}{(4-2)(4-3)(4-5)} 2,2 + \frac{(3,25-2)(3,25-3)(3,25-4)}{(5-2)(5-3)(5-4)} 1,7$$

$$F^3(3,25) = 2,42188 //$$