

Anni	Variabile Y
2002	99
2003	232
2004	345
2005	380
2006	410
2007	375
2008	320
2009	300
2010	205
<b>totale</b>	<b>2666</b>

Adattamento

Senza Scarti

x		yi	x <sup>2</sup>	x <sup>3</sup>	x <sup>4</sup>	x*y	x <sup>2</sup> *y	(y-My) <sup>2</sup>	f(x)	y-f(x)	[y-f(x)] <sup>2</sup>
1		<b>99</b>	1	1	1	99	99	38897	115,4060606	-16,4061	269,1588246
2		<b>232</b>	4	8	16	464	928	4124,5	231,9181818	0,0818	0,006694215
3		<b>345</b>	9	27	81	1035	3105	2379,3	317,869697	27,1303	736,0533425
4		<b>380</b>	16	64	256	1520	6080	7018,7	373,2606061	6,7394	45,41943067
5		<b>410</b>	25	125	625	2050	10250	12945	398,0909091	11,9091	141,8264463
6		<b>375</b>	36	216	1296	2250	13500	6205,9	392,3606061	-17,3606	301,3906428
7		<b>320</b>	49	343	2401	2240	15680	565,38	356,069697	-36,0697	1301,023039
8		<b>300</b>	64	512	4096	2400	19200	14,272	289,2181818	10,7818	116,2476033
9		<b>205</b>	81	729	6561	1845	16605	8321,5	191,8060606	13,1939	174,0800367
45		<b>2666</b>	285	2025	15333	13903	85447	80472	2666,00	0,0000	3085,21

$M_x = 5$

$M_y = 296,22$

$VAR(Y) = 8941,28$

o

Sistema Esteso

$$\begin{cases} \sum y = na_0 + a_1 \sum x + a_2 \sum x^2 \\ \sum xy = a_0 \sum x + a_1 \sum x^2 + a_2 \sum x^3 \\ \sum x^2 y = a_0 \sum x^2 + a_1 \sum x^3 + a_2 \sum x^4 \end{cases}$$

$$D_0 = 166320$$

$$D_1 = -5266800$$

$$a_0 = -5.26.800 / 166.320 = \mathbf{-31,6667}$$

$$D_2 = 27002556,00$$

$$a_1 = 27.002.556,0 / 166.320 = \mathbf{162,3530}$$

$$D_3 = -2541420$$

$$a_2 = -2.541.420 / 166.320 = \mathbf{-15,2803}$$

La funzione adattata:

$$f(x) = \mathbf{-31,6667} + \mathbf{162,3530} x + \mathbf{-15,2803} x^2$$

$$\eta = \sqrt{\sum_{i=1}^n [(y_i - f(x_i))]^2 / n} = \sqrt{3085,21 / 9} = \mathbf{18,51488}$$

$$\eta^2 = \mathbf{342,8007} \quad \circ$$

$$R^2 = 1 - \frac{\eta^2}{\sigma_y^2} \quad R^2 = 1 - \frac{342,8007}{894,128} = \mathbf{0,9617}$$