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Grado: Quinto ADMON

Curso: Estadística II

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Ejercicio #07: momentos K_2 hasta $K=5$,
 SK, coeficiente B_1, B_2 y tipo de
 curvatura.

K	$L-X$	f	X	$f \cdot X$	$d = X - \bar{X}$	$f \cdot d$	$(X - \bar{X})^2$	$f \cdot (X - \bar{X})^2$	$(X - \bar{X})^3$
1	59-68	4	635	254	21.09	84.36	444.79	1,779.16	9,380.58
2	69-78	8	735	588	11.09	88.72	122.99	983.92	1,363.94
3	79-88	18	835	1503	1.09	19.62	1.19	21.42	1.30
4	89-98	11	935	1028.5	8.91	98.01	79.39	873.29	7073.5
5	99-108	5	1035	517.5	18.91	94.55	357.59	1,787.95	6,761.99
			Σ: 3,891.0		Σ: 385.30		Σ: 5,445.74		

$P \cdot (x_s - \bar{x})^3$	$(x_s - \bar{x})^4$	$f \cdot (x_s - \bar{x})^4$	$(x_s - \bar{x})^5$	$f \cdot (x_s - \bar{x})^5$	$f \cdot (x_s - \bar{x})^6$
-37,522.32	197,836.45	797,345.80	4173,330.81	16,689,483.24	4
-10,911.52	15,126.07	121,008.56	-167,748.15	-1,341,985.20	12
-23.40	1.41	25.38	-1.54	-27.72	30
7,780.85	6,302.47	64,327.17	56,155.01	617,705.11	41
33,809.95	127,869.25	639,346.25	3,418,007.50	12,090,037.50	46
$\Sigma: 6,866.44$	$\Sigma: 1,021,053.16$			$\Sigma: 323,753.55$	

① Media Aritmética. | ② Mediana.

$$\bar{x} = \frac{3891}{46}$$

$$\bar{x} = 84.59$$

$$Md = 78.5 + \left(\frac{23-12}{10} \right) 10$$

$$Md = 78.5 + \left(\frac{11}{10} \right) 10$$

$$Md = 78.5 + 11$$

$$Md = 89.5$$

$$Md = 84.6$$

③ Desviación Media.

$$DM = \frac{38530}{46}$$

$$DM = 838$$

④ Desviación estándar.

$$S = \sqrt{11839}$$

$$S = 10.88$$

⑤ K_2 .

$$K_2 = \frac{5445.74}{46}$$

$$K_2 = 118.39$$

⑥ M_3

$$M_3 = \frac{-6846.44}{46}$$

$$M_3 = -149.27$$

⑦ M_4

$$M_4 = \frac{1621.053.16}{46}$$

$$M_4 = 35,240.29$$

$$\textcircled{8} \quad M_5$$

$$M_5 = \frac{-5,323,753.55}{46}$$

$$M_5 = -115,733.77$$

$$\textcircled{10} \quad B_1$$

$$B_1 = \frac{M_3}{M_2^3}$$

$$B_1 = \frac{-6,866.442}{118.393}$$

$$B_1 = \frac{47,147,998.27}{1,659,376.98}$$

$$B_1 = 28.41$$

$\textcircled{9} \quad SK$

$$SK = 3 \left(\frac{\bar{x} - Md}{s} \right)$$

$$SK = 3 \left(\frac{8459 - 8460}{10.88} \right)$$

$$SK = 3 \left(\frac{-0.01}{10.88} \right)$$

$$SK = 0.03$$

Negativa

$\textcircled{11} \quad B_2$

$$B_2 = \frac{M_4}{M_2^2}$$

$$B_2 = \frac{35,240.29}{118.39^2}$$

$$B_2 = \frac{35,240.29}{14,016.19}$$

$$B_2 = 2.51$$

Positiva