

UNIVERSIDAD DEL SURESTE. U.D.S

Nombre del Alumno: Olivia Flores Santos.

parcial: 1ro.

Nombre de la Materia: Estadística Descriptiva.

Nombre de la Licenciatura: Psicología.

Nombre del Profesor: Jorge Enrique Albores.

Cuatrimestre: 2do.

Fecha de entrega:

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Realice el siguiente Ejercicio 1
denominado Bondad y Ajuste.

Realice la tabla con 8 intervalos.

111	76	97	48	97	95	105	90
48	80	100	49	100	99	68	97
55	97	90	55	66	107	56	92
60	98	76	57	69	104	87	87
100	105	98	67	56	48	85	88
54	56	100	103	68	106	93	98
67	49	76	109	78	111	98	100

No. Datos = 56

Calcular Rango.

$$\text{Rango} = \frac{(\text{NO mayor} - \text{NO menor}) + 1}{\text{NO intervalo}}$$

$$\text{Rango} = \frac{(111 - 48) + 1}{8} = 63 + 1 = 64$$

$$\text{Rango} = \frac{64}{8} = 8 - 1 = 7$$

$$\text{Rango} = 7$$

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Intervalo	f_i	$\% f_i$	F_{i0}	$\% F_{i0}$	\bar{x}_i	$F_i \bar{x}_i$	\bar{x}_i^2	$F_i \bar{x}_i^2$
48-55	8	14.28%	8	14.28%	51.5	412	2,652.25	21,218
56-63	5	8.928%	13	23.21%	59.5	297.5	3,540.25	17,701.25
64-71	6	10.71%	19	33.92%	67.5	405	4,556.25	27,337.5
72-79	4	7.142%	23	41.07%	75.5	302	5,700.25	22,801
80-87	4	7.142%	27	48.21%	83.5	334	6,972.25	27,889
88-95	6	10.71%	33	58.92%	91.5	549	8,372.25	50,233.5
96-103	15	26.78%	48	85.71%	99.5	1,492.5	9,900.25	148,503.75
104-111	8	14.28%	56	100%	107.5	860	11,556.25	92,450
	56					4,652		408,134

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Calcular Moda.

$$M_o = L_i + \frac{f_i - f_{i-1}}{(f_i - f_{i-1}) + (f_i - f_{i+1})} \cdot a_i$$

$$M_o = 96 + \frac{15 - 6}{(15 - 6) + (15 - 8)} \cdot 7 = 99.9$$

Calcular Mediana.

$$M_e = L_i + \frac{\frac{n}{2} - f_{i-1}}{f_i} \cdot a_i$$

$$\frac{n}{2} = \frac{56}{2} = 28$$

$$M_e = 88 + \frac{28 - 27}{6} \times 7 = 89.16$$

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Calcular Media

$$\bar{x} = \frac{\sum f_i \bar{x}_i}{n} = \frac{4,652}{56} = 83.07$$

$$\bar{x} = 83.07$$

Calcular Varianza.

$$s^2 = \frac{\sum f_i \bar{x}_i^2 - \frac{(\sum f_i \bar{x}_i)^2}{n}}{n-1}$$

$$s^2 = \frac{408134 - \frac{(4652)^2}{56}}{55} = 394.2$$

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Calcular Desviación Estandar.

$$s = \sqrt{394.2}$$

$$s = 19.8$$

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Realice el siguiente Ejercicio 2.

Realice la tabla con 6 intervalos.

80	77	71	55	65	69
70	69	80	56	67	71
55	60	74	67	74	70
45	56	60	48	45	80
76	45	49	77	58	59
48	80	50	70	56	49
53	72	70	46	60	80
56	76	80	71	80	80

NO. Datos = 48

Calcular Rango.

$$\text{Rango} = \frac{(\text{NO mayor} - \text{NO menor}) + 1}{\text{NO intervalo}}$$

$$\text{Rango} = \frac{(80 - 45)}{6} = 35 + 1 = 36$$

$$\text{Rango} = \frac{36}{6} = 6 - 1 = 5$$

$$\text{Rango} = 5$$

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Intervalo	f_i	$\%f_i$	f_{ia}	$\%f_{ia}$	\bar{x}_i	$f_i \bar{x}_i$	\bar{x}_i^2	$f_i \bar{x}_i^2$
45-50	9	18.75%	9	18.75%	47.5	427.5	2,256.25	20,306.25
51-56	7	14.58%	16	33.33%	53.5	374.5	2,862.25	20,035.75
57-62	5	10.41%	21	43.75%	59.5	297.5	3,540.25	17,701.25
63-68	3	6.25%	24	0.5%	65.5	196.5	4,290.25	12,870.75
69-74	12	0.25%	36	0.75%	71.5	858	5,112.25	61,347
75-80	12	0.25%	48	100%	77.5	930	6,006.25	72,075
	48					3,084		204,336

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Calcular Moda.

$$M_0 = L_i + \frac{f_i - f_{i-1}}{(f_i - f_{i-1}) + (f_i - f_{i+1})} \cdot a_i$$

$$M_0 = 69 + \frac{12 - 3}{(12 - 3) + (12 - 12)} \cdot 5 = 74$$

Calcular Mediana.

$$M_e = L_i + \frac{\frac{n}{2} - F_{i-1}}{f_i} \cdot a_i$$

$$\frac{n}{2} = \frac{48}{2} = 24$$

$$M_e = 63 + \frac{24 - 21}{3} \times 5 = 68$$

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Calcular Media.

$$\bar{x} = \frac{\sum f_i \bar{x}_i}{n} = \frac{3,084}{48} = 64.25$$

$$\bar{x} = 64.25$$

Calcular Varianza.

$$s^2 = \frac{\sum f_i \bar{x}_i^2 - \frac{(\sum f_i \bar{x}_i)^2}{n}}{n-1}$$

$$s^2 = \frac{204,336 - \frac{(3,084)^2}{48}}{47} = 131.6$$

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Calcular
Desviación Estandar.

$$s^2 \sqrt{131.6}$$

$$s = 11.4$$

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