

Mary Denny Cruz Jimenez

Ejemplo 1

Realice los cálculos de media, moda, Varianza, desviación, estandar.

40	56	45	56	50	50	
55	60	55	67	49	59	
60	63	54	50	55	58	
63	50	50	46	48	60	
47	50	65	49	40	64	
40	49	62	58	44	72	
55	50	78	65	50	70	
50	54	84	62	45	68	total
410	452	403	453	381	501	2670
21,528	23,522	31,635	26,075	18,241	31,749	152,840

$$\sum F_i = 2670$$

$$\sum F_i^2 = 152,840$$

$$\bar{x} = \frac{\sum F_i}{n}$$

$$n = 40 \quad \bar{x} = \frac{2670}{40}$$

$$\bar{x} = 55.625 \quad \text{moda} = 55.625$$

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40	59
40	60
40	60
44	60
45	62
45	62
46	63
47	63
48	64
49	65
49	65
49	67
50	68
50	70
50	72
50	78
50	84
50	
50	
50	
50	
54	
54	
55	
55	
56	
56	
58	
58	

$$\frac{n}{2}, \frac{n}{2} + 1$$

$$\frac{48}{2}, \frac{48}{2} + 1$$

24, 25

$$\frac{55 + 55}{2} = \frac{110}{2} = 55$$

mediana = 55

mode = 50

28	12	10	15	18
18	10	15	20	25
22	15	20	25	30
25	20	25	30	35
15	20	25	30	35
20	25	30	35	40
25	30	35	40	45
30	35	40	45	50
35	40	45	50	55
40	45	50	55	60
45	50	55	60	65
50	55	60	65	70
55	60	65	70	75
60	65	70	75	80
65	70	75	80	85
70	75	80	85	90
75	80	85	90	95
80	85	90	95	100

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$$Efi = 2,670$$

$$Efi^2 = 152,840$$

$$S^2 = \frac{Efi^2 - \frac{(Efi)^2}{n}}{n-1}$$

$$S^2 = \frac{152,840 - \frac{(2,670)^2}{48}}{47}$$

$$\frac{152,840 - (2670^2 \div 48)}{\div 47} = 4,321.25$$

$$\frac{4,321.25}{47} = 91.94$$

Varianza 91.94

$$S = \sqrt{S^2}$$

$$S = \sqrt{91.94} = 9.58$$

Variación Estanda. 9.58

2do Ejercicio.

27	48	49	35	31	57	35	38
35	87	35	44	44	55	87	45
40	35	60	78	35	78	35	56
78	44	66	76	55	54	88	67
35	35	76	89	80	86	44	77
44	40	82	35	62	94	35	78
56	87	35	70	77	90	80	35
315	866	398	427	315	514	404	396
15,935	2355	82	2184	2184	341	27	24
					60	324	332

$$Efi = 3,211$$

$$Efi^2 = 207,513$$

$$\frac{\sum Efi^2}{n}$$

$$n = 56$$

Mediana.

$$57.33$$

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6	60
6	66
7	66
	67
	70
	76
	77
	77
	78
	78
	78
	80
	82
	85
	86
	87
	88
	89
	90
	94

$$\frac{Q_1 + Q_3}{2} = 71$$

$$\frac{56}{2}, \frac{56}{2} + 1$$

$$28.29$$

$$\frac{54 + 55}{2} = 54.5$$

Mediana = 54

moda 35

$$S = \sqrt{52}$$

$$S = \sqrt{425.38} = 20.62$$

Variacion Estanda 20.62

$$EF1 = 3.211$$

$$EF2 = 207.513$$

$$S^2 = EF2 - \frac{(EF1)^2}{n}$$

$$S^2 = \frac{207,513 - \left(\frac{3.11}{55}\right)^2}{55}$$

$$\frac{207,513 - \left(3.211 \cdot \frac{56}{55}\right)}{55} = 23.396$$

$$\frac{23396}{55} = 425.38$$

Variacion = 425.38