



**Nombre de alumno: Pablo Ángel
Campo Santis**

**Nombre del profesor: Jorge Enrique
Albores Aguilar**

Nombre del trabajo: Actividad 2.1

Materia: Estadística

PASIÓN POR EDUCAR

Grado: 1er cuatrimestre

Grupo: A

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

40	40	44	46	47	48
49	49	50	50	50	50
50	50	54	55	55	58
58	60	60	62	63	63
64	65	65	70	72	78

* Media:

$$40 + 40 + 44 + 46 + 47 + 48 + 49 + 49 + 50 + 50 + 50 + 50 + 50 + 50 + 54 + 55 + 55 + 58 + 58 + 60 + 60 + 62 + 63 + 63 + 64 + 65 + 65 + 70 + 72 + 78$$

$$\bar{x} = 1665 \div 30 = 55.5$$

$$\bar{x} = 55.5$$

* Mediana:

$$54, 55 \rightarrow 54 + 55 = 109 \rightarrow 109 \div 2 =$$

$$Me = 54.5$$

* Moda:

50 es el numero que mas se repite en la tabla repitiendose un total de 6 veces.

* Varianza: (Formula de muestra)

$$s^2 = \frac{\sum (x - \bar{x})^2}{n-1} = s^2 = \frac{\sum x}{n-1} = \bar{x} = \frac{1665}{30} = 55.5 \text{ promedio}$$

$$s^2 = (40 - 55.5)^2 + (40 - 55.5)^2 + (44 - 55.5)^2 + (46 - 55.5)^2 + (47 - 55.5)^2 + (48 - 55.5)^2 + (49 - 55.5)^2 + (49 - 55.5)^2 + (50 - 55.5)^2 + (50 - 55.5)^2 + (50 - 55.5)^2 + (50 - 55.5)^2 + (54 - 55.5)^2 + (55 - 55.5)^2 + (55 - 55.5)^2 + (58 - 55.5)^2 + (58 - 55.5)^2 + (60 - 55.5)^2 + (60 - 55.5)^2 + (62 - 55.5)^2 + (63 - 55.5)^2 + (63 - 55.5)^2 + (64 - 55.5)^2 + (65 - 55.5)^2 + (65 - 55.5)^2 + (70 - 55.5)^2 + (72 - 55.5)^2 + (78 - 55.5)^2 =$$

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Ejercicio 1

$$\begin{array}{r} 240.25 + 240.25 + 132.25 + 90.25 + 72.25 + 56.25 + \\ 42.25 + 42.25 + 30.25 + 30.25 + 30.25 + 30.25 + 30.25 + \\ 30.25 + 2.25 + 0.25 + 0.25 + 6.25 + 6.25 + 20.25 + 20.25 + \\ 42.25 + 56.25 + 56.25 + 72.25 + 90.25 + 90.25 + 210.25 + \\ 272.25 + 506.25 \\ \hline 29 \end{array}$$

$$s^2 = \frac{2,549.5}{29}$$

$$s^2 = 87.91$$

* Desviación estándar:

$$s^2 = 87.91$$

$$s = \sqrt{87.91}$$

$$s = 9.37$$

35	44	44	55	87	45
60	78	35	78	35	56
66	76	55	54	88	67
76	89	80	86	44	77
82	85	66	94	35	78
35	70	77	90	80	35

35	35	35	35	35	35
35	44	44	44	45	54
55	55	56	60	66	66
67	70	76	76	77	77
78	78	78	80	80	82
86	87	88	89	90	94

* Media:

$$35 + 35 + 35 + 35 + 35 + 35 + 35 + 44 + 44 + 44 + 45 + 54 + 55 + 55 + 56 + 60 + 66 + 66 + 67 + 70 + 76 + 76 + 77 + 77 + 78 + 78 + 78 + 80 + 80 + 82 + 86 + 87 + 88 + 89 + 90 + 94$$

$$= 2287 \rightarrow 2287 \div 36 = 63.52$$

$\bar{x} = 63.52$

* Mediana:

$$66, 67 \rightarrow 66 + 67 = 133 \rightarrow 133 \div 2 = 66.5$$

$Me = 66.5$

* Moda:

35 es el numero que mas veces se repite en la tabla repitiendose en total de 7 veces

$Mo = 35$

* Varianza: (formata de muestra)

$$s^2 = \frac{\sum (x - \bar{x})^2}{n-1} = \frac{s^2 = \sum x}{n-1} = \bar{x} = 2287 \div 36 = 63.52 \text{ promedio}$$

$$s^2 = (35 - 63.52)^2 + (35 - 63.52)^2 + (35 - 63.52)^2 + (35 - 63.52)^2 + (35 - 63.52)^2 + (35 - 63.52)^2 + (35 - 63.52)^2 + (44 - 63.52)^2 + (44 - 63.52)^2 + (44 - 63.52)^2 + (45 - 63.52)^2 + (54 - 63.52)^2 + (55 - 63.52)^2 + (55 - 63.52)^2 + (56 - 63.52)^2 + (60 - 63.52)^2 + (66 - 63.52)^2 + (66 - 63.52)^2 + (67 - 63.52)^2 + (70 - 63.52)^2 + (76 - 63.52)^2 + (76 - 63.52)^2 + (77 - 63.52)^2 + (77 - 63.52)^2 + (78 - 63.52)^2 + (78 - 63.52)^2 + (78 - 63.52)^2 + (86 - 63.52)^2 + (87 - 63.52)^2 + (88 - 63.52)^2 + (89 - 63.52)^2 + (90 - 63.52)^2 + (94 - 63.52)^2$$

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Ejercicio 2

$$(80-63.52)^2 + (80-63.52)^2 + (82-63.52)^2 + (86-63.52)^2 +$$

$$(87-63.52)^2 + (88-63.52)^2 + (89-63.52)^2 + (90-63.52)^2 +$$

$$(94-63.52)^2 =$$

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$$s^2 = 813.39 + 813.39 + 813.39 + 813.39 + 819.39 + 819.39 + 819.39 + 381.03 + 381.03 + 381.03 + 342.99 + 90.63 + 72.59 + 72.59 + 56.55 + 12.39 + 6.15 + 6.15 + 12.11 + 21.99 + 155.75 + 155.75 + 181.71 + 181.71 + 209.67 + 209.67 + 209.67 + 271.59 + 271.59 + 341.51 + 505.35 + 551.31 + 599.27 + 649.23 + 701.19 + 929.03$$

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$$s^2 = \frac{13,680.96}{35}$$

$$s^2 = 390.88$$

* Desviación estándar:

$$\sqrt{390.88}$$

$$= 19.77$$