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**Licenciatura: Enfermería.**

**Materia: Bioestadística.**

PASIÓN POR EDUCAR

**Nombre del trabajo: Ejercicios.**

Ensayo del tema:

“Ciencia y Conocimiento”

① DATOS NO AGRUPADOS O DESAGRUPADOS.

10, 8, 6, 4, 9, 7, 10, 9, 6

$$10 + 8 + 6 + 4 + 9 + 7 + 10 + 9 + 6 = 69 \div 9 = 7.6$$

4, 6, 6, 7, 8, 9, 9, 10, 10

$$\bar{X} = 7.6$$

4, 6, 6, 7, 8, 9, 9, 10, 10

$$Me = 8$$

$$Mo = 6, 9, 10$$

## "DATOS NO AGRUPADOS O DESAGRUPADOS"

②

9, 3, 8, 8, 9, 8, 9, 10

$$9 + 3 + 8 + 8 + 9 + 8 + 9 + 10 = 72 \div 8 = 9$$

3, 8, 8, 8, 9, 9, 9, 10

$$8 + 9 = 17 \div 2 = 8.5$$

$$\bar{x} = 9$$

3, 8, 8, 8, 9, 9, 9, 10

$$Me = 8.5$$

$$Mo = 8, 9$$

### 3 = DATOS AGRUPADOS PUN-TUALMENTE =

X	f	F	X * f
44	1	1	44
45	4	5	180
49	1 <sup>Mo</sup>	6 <sup>Me</sup>	49
53	1	7	53
54	1	8	54
55	2	10	110
56	1	11	56
57	1	12	57
Total	12		603

$$\bar{X} = \frac{\sum x \cdot f}{n} = \frac{603}{12}$$

$$\bar{X} = 50.25 \text{ retardo}$$

$$M_e = 49 \text{ retardo}$$

$$\frac{n}{2} = \frac{12}{2} = 6$$

$$M_o = 49 \text{ retardo}$$

$$X = 50.25$$

$$f = 49$$

$$F = 49$$



# ④ DATOS AGRUPADOS EN INTERVALOS

Pacientes	x	f	F	x·f
1-3	2	2	2	4
4-6	5	4	6	20
7-9	8	13	19	104
10-12	11	25	44	275
13-15	14	12	56	168
16-18	17	9	65	153
19-21	20	5	70	100
Total		70		824

$$\bar{x} = \frac{\sum x \cdot f}{n}$$

$$\bar{x} = \frac{824}{70} = 11.7714$$

$$\checkmark \text{Media } \bar{x} = 11.7714$$

$$\text{Posición } \frac{n}{2} = \frac{70}{2} = 35$$

$$\text{Me} = 10 + \frac{35 - 19}{25} \cdot 2$$

$$\begin{aligned} L_1 &= 10 & F_{1-1} &= 19 \\ n &= 70 & F_1 &= 25 \\ A_1 &= L_5 - L_1 = 2 \end{aligned}$$

$$\text{me} = 10 + \frac{16}{25} \cdot 2$$

$$\text{me} = 10 + 1.28$$

$$\checkmark \text{me} = 11.28$$

Mo Fmator:

$$\text{Mo} = 10 + \frac{12}{12+13} \cdot 2$$

$$\text{Mo} = 10 + \frac{24}{25}$$

$$\checkmark \text{Mo} = 10 + 0.96 = 10.96 \text{ paciente}$$

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## DATOS NO AGRUPADOS O DESAGRUPADOS

$$\bar{x} = \frac{\sum x_i}{n} = \frac{2, 2, 4, 4, 5, 5, 6}{7} = 28$$

$$n = 7 \quad = \frac{28}{7} = 4$$

$$\bar{x} = 4 \quad a^2 = \frac{(\sum (x_i - \bar{x})^2)}{n}$$

$$a^2 = \frac{(2-4)^2 + (2-4)^2 + (4-4)^2 + (4-4)^2 + (5-4)^2 + (5-4)^2 + (6-4)^2}{7}$$

$$a^2 = \frac{(2-4)^2 + (2-4)^2 + (0)^2 + (0)^2 + (1)^2 + (1)^2 + (2)^2}{7}$$

$$a^2 = \frac{4 + 4 + 0 + 0 + 1 + 1 + 4}{7}$$

$$a^2 = \frac{14}{7}$$

$$a^2 = 13.42 \text{ Varianza.}$$

Desviación estándar

$$a = \sqrt{13.42}$$

$$a = 3.66$$

Q ②

## " DATOS AGROPADOS PUNTOALES "

Edad x	F	x · F	(x - $\bar{x}$ ) <sup>2</sup>	F(x - $\bar{x}$ ) <sup>2</sup>
21	1	21	1.69	1.69
22	4	88	0.09	0.36
23	3	69	0.49	1.47
24	1	24	2.89	2.89
25	1	25	7.29	7.29
Total	10	223		13.7

$$\bar{x} = \frac{\sum x \cdot f}{n}$$

$$\bar{x} = \frac{223}{10} = 22.3$$

$$\bar{x} = 22.3$$

$$(21 - 22.3)^2 = 1.69$$

$$(22 - 22.3)^2 = 0.09$$

$$(23 - 22.3)^2 = 0.49$$

$$(24 - 22.3)^2 = 2.89$$

$$(25 - 22.3)^2 = 7.29$$

$$1.69 \cdot 1 = 1.69$$

$$0.09 \cdot 4 = 0.36$$

$$0.49 \cdot 3 = 1.47$$

$$2.89 \cdot 1 = 2.89$$

$$7.29 \cdot 1 = 7.29$$

$$\bar{v}^2 = \frac{13.7}{10}$$

$$\bar{v}^2 = 1.37$$

$$\bar{v} = \sqrt{1.37}$$

$$\bar{v} = 1.17$$

Desviación Estándar  
Promedio

$$Cv = \frac{1.17}{22.3} = 0.05$$

$$0.05 = 5\%$$

$$\bar{x} = 22.3$$

$$\bar{v}^2 = 1.37$$

$$\bar{v} = 1.17$$



① "DATOS AGRUPADOS EN INTERVALOS"

Horas Sueldo	X	F	X*F	(X- $\bar{x}$ ) <sup>2</sup>	F*(X- $\bar{x}$ ) <sup>2</sup>
2-6	4	1	4	67.24	67.24
6-10	8	4	32	17.64	70.56
10-14	12	10	120	0.04	0.4
14-18	16	3	48	14.44	43.32
18-22	20	2	40	60.84	121.68
Total		20	244		303.2

$\bar{x} = 12.2$   
 $S^2 = 15.95$   
 $S = 3.99$

$$S^2 = \frac{\sum (X - \bar{x})^2 \cdot F}{n - 1}$$

$$\bar{x} = \frac{\sum X \cdot F}{n}$$

$$\bar{x} = \frac{244}{20} = 12.2$$

$(4 - 12.2)^2 = 67.24$   
 $(8 - 12.2)^2 = 17.64$   
 $(12 - 12.2)^2 = 0.04$   
 $(16 - 12.2)^2 = 14.44$   
 $(20 - 12.2)^2 = 60.84$

$$S^2 = \frac{303.2}{19}$$

$$S^2 = 15.95^2$$

$$S = \sqrt{15.95}$$

$$S = 3.99$$

$$CV = \frac{S}{\bar{x}} \cdot 100$$

$$CV = \frac{3.99}{12.2} \cdot 100$$

$$CV = 3.27\%$$