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LICENCIATURA: ENFERMERIA

MATERIA: Bioestadística

CUATRIMESTRE Y MODALIDAD: 4to cuatrimestre,
escolarizado

NOMBRE Y TEMA DEL TRABAJO:
Ejercicios “medidas de posición”

Frontera Comalapa, Chiapas a 30 de octubre de 2020.

EXERCICIO 1. Datos no agrupados peso en kg de 30 personas

58	56	56	56	58
58	56	63	50	63
68	63	64	64	57
60	68	68	63	61
55	65	56	63	52
57	60	59	58	64

Determina:

$$Q1 = 56 \times 8$$

$$Q3 = 63 \times 23$$

$$D5 = 59$$

$$D8 = 64 \times 24$$

x_1	x_2	x_3	x_4	x_5	x_6	x_7	x_8	x_9	x_{10}	x_{11}	x_{12}	x_{13}	x_{14}	x_{15}	x_{16}	x_{17}
50	50	52	53	55	56	56	56	56	57	58	58	58	58	59	60	60
x_{18}	x_{19}	x_{20}	x_{21}	x_{22}	x_{23}	x_{24}	x_{25}	x_{26}	x_{27}	x_{28}	x_{29}	x_{30}				
61	63	63	63	63	63	64	64	64	65	65	68	68				

59.5

$$Q_1 \downarrow$$

$$56$$

$$\times 8$$

No. par

$$Q_2$$

$$Me$$

$$\downarrow$$

$$59.5$$

$$Q_3$$

$$\downarrow$$

$$63$$

$$\times 23$$

Me:

$$59,60$$

$$\frac{59+60}{2} = 59.5$$

2

$$Me: 59.5$$

$$Q_k = \frac{k_n}{4} \text{ Position}$$

$$Q_2 = \frac{2(30)}{4} = \frac{60}{4} = 15$$

$$Q_3 = \frac{3(30)}{4} = 22.5$$

$$Q_3 = 63 \times 23$$

$$Q_1 = \frac{1(30)}{4} = 7.5$$

$$Q_1 = 56 \times 8$$

Deciles

x_1
 50, x_2 50, x_3 52, x_4 53, x_5 55, x_6 56, x_7 56, x_8 56, x_9 56, x_{10} 57, x_{11} 58, x_{12} 58, x_{13} 58, x_{14} 58,
 x_{15} 59, x_{16} 60, x_{17} 60, x_{18} 61, x_{19} 63, x_{20} 63, x_{21} 63, x_{22} 63, x_{23} 63, x_{24} 64, x_{25} 64, x_{26} 64, x_{27} 65, x_{28} 65,
 x_{29} 68, x_{30} 68.

No. Par

$$D_k = \frac{kn}{10}$$

$$D_4 = \frac{8 \cdot 30}{10} = 24$$

$$D_4 = x_{24} = 64$$

$$D_5 = \frac{5 \cdot 30}{10} = 15$$

$$D_5 = 15 = 59$$

No. Impar

$$D_k = \frac{k(n+1)}{10}$$

Mtc:

$$59, 60$$

$$\frac{59 + 60}{2} = 59.5$$

EJERCICIO 2. Altura de 13 personas

~~1,35~~ / ~~1,79~~ / ~~1,71~~ / ~~1,85~~ / ~~1,70~~ / 2,11 / 2,03 / ~~1,81~~ / ~~1,70~~ / ~~1,74~~
~~1,83~~ / ~~1,70~~ / ~~1,88~~

Determina:

$$Q_1 = 1.7$$

$$Q_3 = 1.865$$

$$D_2 = 1.615$$

$$D_7 = 1.83$$

No. Par $Q_k = \frac{kn}{4}$

No. Impar $Q_k = \frac{k(n+1)}{4}$

x_1 / x_2 / x_3 / x_4 / x_5 / x_6 / x_7 / x_8 / x_9 / x_{10} / x_{11} / x_{12} / x_{13}
 1,35 / 1,53 / 1,70 / 1,70 / 1,70 / 1,71 / 1,74 / 1,79 /
 1,81 / 1,85 / 1,88 / 2,03 / 2,11

$$Q_k = \frac{k(n+1)}{4}$$

$$Q_k = \frac{1(13+1)}{4} = \frac{14}{4} = 3.5$$

$$\frac{1.70 + 1.70}{2} = 1.7$$

$$Q_3 = \frac{3(13+1)}{4} = \frac{3 \cdot 14}{4} = 10.5$$

$$\frac{1.85 + 1.88}{2} = 1.865$$

x_1 / x_2 / x_3 / x_4 / x_5 / x_6 / x_7
 1,35 / 1,53 / 1,70 / 1,70 / 1,70 / 1,71 / 1,74 /
 x_8 / x_9 / x_{10} / x_{11} / x_{12} / x_{13}
 1,79 / 1,81 / 1,85 / 1,88 / 2,03 / 2,11.

No. Imper $D_k = \frac{k(n+1)}{10}$

$$D_2 = \frac{2(13+1)}{10} = \frac{2 \cdot 14}{10} = 2.8$$

$$\frac{1.53 + 1.70}{2} = 1.615$$

$$D_7 = \frac{7(13+1)}{10} = \frac{7 \cdot 14}{10} = 9.8$$

$$\frac{1.81 + 1.85}{2} = 1.83$$

Datos Agrupados Puntualmente

Ejercicio 3. En la siguiente tabla se muestra la edad del registro de 80 mujeres con cáncer de mama en cierto hospital.

edades	mujeres	
X	f	F
44	9	9
45	13	22
49	16	38
53	12	50
54	11	61
55	8	69
56	6	75
57	5	80
Total	80	

Determina:

$$Q_3 = 54$$

$$D_5 = 53$$

$$D_7 = 54$$

$$P_{45} = 49$$

$$P_{73} = 54$$

Posición

Q_k

D_k

P_k

$$\frac{kn}{4}$$

$$\frac{kn}{10}$$

$$\frac{kn}{100}$$

$$Q_3 = \frac{3 \cdot 80}{4} = 60 \text{ posición}$$

$$D_5 = \frac{5 \cdot 80}{10} = 40 \text{ posición}$$

$$D_7 = \frac{7 \cdot 80}{10} = 56 \text{ posición}$$

$$P_{45} = \frac{45 \cdot 80}{100} = 36 \text{ posición}$$

$$P_{73} = \frac{73 \cdot 80}{100} = 58.4 \text{ posición}$$