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Materia:

Bioestadística I

Nombre del trabajo:

Ejercicios tema:

“Medidas de Posición”

MEDIDAS DE POSICION

DATOS NO AGRUPADOS

Ejercicio 1: Peso en Kg de 30 personas

58	50	56	56	58
58	56	63	50	63
68	63	64	64	53
60	68	65	63	61
55	65	56	63	52
57	60	59	58	64

CUARTIL:

50, 50, 52, 53, 55, 56, 56, 56, 56, 57, 58, 58, 58, 58, 59, 60, 60, 61, 63, 63, 63,
 63, 63, 64, 64, 64, 65, 65, 68, 68

$\frac{63 + 63}{2} = 63 \rightarrow Q_3$
 $\frac{56 + 56}{2} = 56 \rightarrow Q_1$

Determina

Q1 = 56

Q3 = 63

D5 = 59

D8 = 64

$$Q_k = \frac{Kn}{4}$$

$$Q_k = \frac{Kn}{4}$$

$$Q_1 = \frac{1 * 30}{4}$$

$$Q_3 = \frac{3 * 30}{4}$$

$$Q_1 = \frac{30}{4}$$

$$Q_2 = \frac{90}{4}$$

$$Q_1 = 7.5$$

$$Q_2 = 22.5$$

DECIL:

50, 50, 52, 53, 55, 56, 56, 56, 56, 57, 58, 58, 58, 58, 59, 60, 60, 61, 63, 63, 63,
 63, 63, 64, 64, 64, 65, 65, 68, 68

$\rightarrow D_8$ (pointing to 64)
 $\rightarrow D_5$ (pointing to 59)

$$D_k = \frac{Kn}{10} \rightarrow D_8$$

$$D_8 = \frac{Kn}{10}$$

$$D_5 = \frac{5 * 30}{10}$$

$$D_8 = \frac{8 * 30}{10}$$

$$D_5 = \frac{150}{10}$$

$$D_8 = \frac{240}{10}$$

$$D_5 = 15$$

$$D_8 = 24$$

Ejercicio 2: Altura de 13 personas



CUARTIL:

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

$$\frac{1.70 + 1.70}{2} = 1.7 \rightarrow Q_1$$

$$\frac{1.85 + 1.88}{2} = 1.865 \rightarrow Q_3$$

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

$$Q_3 = \frac{K(n+1)}{4}$$

$$Q_1 = \frac{1(13+1)}{4}$$

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

$$Q_1 = \frac{14}{4}$$

$$Q_3 = \frac{42}{4}$$

$$Q_1 = 3.5$$

$$Q_3 = 10.5$$

Determina

Q1 = 1.7

Q3 = 1.865

D2 = 1.615

D7 = 1.83

DECIL:

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

$$\frac{1.53 + 1.70}{2} = 1.615 \rightarrow D_2$$

$$\frac{1.81 + 1.85}{2} = 1.83 \rightarrow D_7$$

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

$$D_7 = \frac{Kn}{10}$$

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

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

$$D_2 = \frac{28}{10}$$

$$D_7 = \frac{98}{10}$$

$$D_2 = 2.8$$

$$D_7 = 9.8$$

MEDIDAS DE POSICION

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.

X	f	F
44	9	9
45	13	22
49	16	38
53	12	50
54	11	61
55	8	63
56	6	75
57	5	80
TOTAL	80	

← P45
 ← D5
 ← Q3 - D7 - P73

Determina

$$Q3 = 54$$

$$D5 = 53$$

$$D7 = 54$$

$$P45 = 49$$

$$P73 = 54$$

CUARTIL:

$$Q_k = \frac{Kn}{4}$$

$$Q_3 = \frac{3 * 80}{4}$$

$$Q_3 = \frac{240}{4}$$

$$Q_3 = 60$$

DECIL:

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

$$D_5 = \frac{5 * 80}{10}$$

$$D_5 = \frac{400}{10}$$

$$D_5 = 40$$

$$D_7 = \frac{Kn}{10}$$

$$D_7 = \frac{7 * 80}{10}$$

$$D_7 = \frac{560}{10}$$

$$D_7 = 56$$

PERCENTIL:

$$P_k = \frac{Kn}{100}$$

$$P_{45} = \frac{45 * 80}{100}$$

$$P_{45} = \frac{3600}{100}$$

$$P_{45} = 36$$

$$D_{73} = \frac{Kn}{10}$$

$$D_{73} = \frac{73 * 80}{100}$$

$$D_{73} = \frac{5840}{100}$$

$$D_{73} = 58.4$$