



Mi Universidad

Actividad

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TEMA: Medidas de posición

PARCIAL: II

MATERIA: Bioestadística

NOMBRE DEL PROFESOR: Ing. Joel Herrera Ordoñez

LICENCIATURA: Enfermería

Ejercicio 1. Datos no agrupados

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 66 54 58 64

Determina:

$$Q_1 = 56 \rightarrow 25\%$$

$$Q_3 = 63 \rightarrow 75\%$$

$$D_5 = 59 \rightarrow 50\%$$

$$D_8 = 64 \rightarrow 80\%$$

50 50 52 53 55 56
 56 56 56 57 58 58
 58 58 ^{q1} 59 ^{q2} 60 60 61
 63 63 ^{D5} 63 ^{q3} 63 63 64 ^{D8}
 64 64 65 65 68 68

$$Q_2 = \frac{59 + 60}{2} = \frac{119}{2} = 59.5$$

posición

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

Posición:

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

$$D_5 = \frac{5 \times 30}{10} = \frac{150}{10} = 15$$

$$D_8 = \frac{8 \times 30}{10} = \frac{240}{10} = 24$$

$$Q_1 = \frac{1 \times 30}{4} = \frac{30}{4} = 7.5$$

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

$$Q_3 = \frac{3 \times 30}{4} = \frac{90}{4} = 22.5$$

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 1.53 1.70 1.88

1.35 1.53 | 1.70 | 1.70 | 1.70 1.71
 $\underbrace{\hspace{1.5cm}}_{D_2}$ $\underbrace{\hspace{1.5cm}}_{Q_1}$
 $\underbrace{1.74}_{Q_2}$ 1.79 $\underbrace{1.81}_{D_7}$ $\underbrace{1.85}_{Q_3}$ 1.88 | 2.03 2.11

$$Q_2 = 1.74$$

Determina

$$Q_1 = 1.70 \rightarrow 25\%$$

$$Q_3 = 1.865 \rightarrow 75\%$$

$$D_2 = 1.615 \rightarrow 20\%$$

$$D_7 = 1.83 \rightarrow 70\%$$

Posición

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

$$Q_1 = \frac{1(13+1)}{4} = \frac{14}{4} = 3.5 = \frac{1.70 + 1.70}{2} = \frac{3.40}{2} = 1.70$$

$$Q_2 = \frac{2(13+1)}{4} = \frac{28}{4} = 7$$

$$Q_3 = \frac{3(13+1)}{4} = \frac{42}{4} = 10.5 = \frac{1.85 + 1.88}{2} = 1.865$$

Posición

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

$$D_2 = \frac{2(13+1)}{10} = \frac{28}{10} = 2.8 \rightarrow \frac{1.53 + 1.70}{2} = 1.615$$

$$D_7 = \frac{7(13+1)}{10} = \frac{98}{10} = 9.8 = \frac{1.81 + 1.85}{2} = 1.83$$

Datos agrupados puntualmente

Ejercicio 3.- En la siguiente tabla se muestran los tiempos de duración en horas de 80 baterías.

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:

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

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

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

$$Q_3 = \frac{3 \times 80}{4} = \frac{240}{4} = 60$$

$$D_5 = \frac{5 \times 80}{10} = \frac{400}{10} = 40$$

$$D_7 = \frac{7 \times 80}{10} = \frac{560}{10} = 56$$

$$P_{45} = \frac{45 \times 80}{100} = \frac{3600}{100} = 36$$

$$P_{73} = \frac{73 \times 80}{100} = \frac{5840}{100} = 58.4$$