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PASIÓN POR EDUCAR

**Materia: Grado: segundo cuatrimestre,  
grupo único**

# EJERCICIO 1 DATOS NO AGRUPADOS. CUARTILES (Q)

$x_1$  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  $x_{10}$  58  $x_{11}$  58  $x_{12}$  58  $x_{13}$  58  $x_{14}$  59  $x_{15}$  60  $x_{16}$  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  
 Q1 Q2 Q3

Determina =

$Q_1 = 56$   
 $Q_3 = 63$   
 $D_5 = 59$   
 $D_8 = 64$

Posición  $Q_k = \frac{kn}{4}$

$Q_1 = \frac{56+56}{2} = \frac{112}{2} = 56$

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

$Q_3 = \frac{63+64}{2} = \frac{127}{2} = 63.5$

Posición (D)  $Q_k = \frac{kn}{10}$

$D_5 = \frac{5 \times 30}{10} = \frac{150}{10} = 15 \rightarrow 59$

$D_8 = \frac{8 \times 30}{10} = \frac{240}{10} = 24 \rightarrow 64$

# Ejercicio 2

## DATOS NO AGRUPADOS - DECILES (D)

$x_1$  2  $x_2$  2  $x_3$  10  $x_4$  11  $x_5$  18  $x_6$  20  $x_7$  25  $x_8$  28  $x_9$  41  $x_{10}$  43  $x_{11}$  50  $x_{12}$  53  $x_{13}$  75  
 3.5 10.5

Determina =

$Q_1 = 10.5$   
 $Q_3 = 46.5$   
 $D_2 = 10$   
 $D_7 = 42$

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

$Q_1 = 1 \frac{(13+1)}{4} = \frac{14}{4} = 3.5 \rightarrow 10.5$

$Q_3 = 3 \frac{(13+1)}{4} = \frac{42}{4} = 10.5 \rightarrow 46.5$

Posición (D)  $Q_k = \frac{k(n+1)}{10}$

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

$D_7 = 7 \frac{(13+1)}{10} = \frac{98}{10} = 9.8 \rightarrow 42$

### Ejercicio 3 Datos Agrupados Puntualmente

| 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:

$$Q_3 = 14$$

$$D_5 = 53$$

$$D_7 = 54$$

$$P_{45} = 46$$

$$P_{73} = 54$$

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

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

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

$$Q_3 \quad \frac{3 \times 80}{4} = \frac{240}{4} = 60 \rightarrow 54$$

$$D_5 \quad \frac{5 \times 80}{10} = \frac{400}{10} = 40 \rightarrow 53$$

$$D_7 \quad \frac{7 \times 80}{10} = \frac{560}{10} = 56 \rightarrow 54$$

$$P_{45} \quad \frac{45 \times 80}{100} = \frac{3600}{100} = 36 \rightarrow 49$$

$$P_{73} \quad \frac{73 \times 80}{100} = \frac{5840}{100} = 58.4 \rightarrow 54$$