

Ejercicio 5.1 Indicaciones: Resuelve correctamente los sig. ejercicios.

Ecuación: $Q_k = K \frac{(n+1)}{4}$

Con decimales: $Q_k = X_{\text{menor}} + (X_{\text{mayor}} - X_{\text{menor}}) (\text{parte decimal})$

1) Halla el cuartil uno, dos y tres de las sig. series.

a) 35, 20, 15, 5, 3, 5, 6, 21.
3, 5, 5, 6, 15, 20, 21, 35 ← ordenado

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

$$\checkmark Q_1 = \frac{1(8+1)}{4} = \frac{1(9)}{4} = \frac{9}{4} = 2.25$$

$$\checkmark Q_1 = 5 + (5 - 5)(0.25)$$

$$\checkmark Q_1 = 5 + (0)(0.25)$$

$$\checkmark Q_1 = 5 + 0 = 5$$

R// El cuartil uno es 5.

$$Q_2 = 2 \frac{(8+1)}{4} = 2 \frac{(9)}{4} = \frac{18}{4} = 4.5$$

$$Q_2 = 6 + (15-6)(0.5)$$

$$Q_2 = 6 + (9)(0.5)$$

$$Q_2 = 6 + 4.5 = 10.5$$

R// El cuartil dos es 10.5

$$Q_3 = 3 \frac{(8+1)}{4} = 3 \frac{(9)}{4} = \frac{27}{4} = 6.75$$

$$Q_3 = 20 + (21-20)(0.75)$$

$$Q_3 = 20 + (1)(0.75)$$

$$Q_3 = 20 + 0.75 = 20.75$$

R// El cuartil tres es 20.75.

c) 75, 22, 30, 18, 50, 81
 15, 18, 22, 30, 50, 81 Ordenado

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

$$Q_1 = \frac{1(6+1)}{4} = \frac{1(7)}{4} = \frac{7}{4} = 1.75$$

$$Q_1 = 75 + (18 - 75)(0.75)$$

$$Q_1 = 75 + (-57)(0.75)$$

$$Q_1 = 75 - 42.75 = 32.25$$

R// El cuartil uno es 32.25

$$Q_2 = \frac{2(6+1)}{4} = \frac{2(7)}{4} = \frac{14}{4} = 3.5$$

$$Q_2 = 22 + (30 - 22)(0.5)$$

$$Q_2 = 22 + (8)(0.5)$$

$$Q_2 = 22 + 4 = 26$$

R// El cuartil dos es 26

$$Q_3 = \frac{3(6+1)}{4} = \frac{3(7)}{4} = \frac{21}{4} = 5.25$$

$$Q_3 = 50 + (81 - 50)(0.25)$$

$$Q_3 = 50 + (31)(0.25)$$

$$Q_3 = 50 + 7.75 = 57.75$$

R// El cuartil tres es 57.75

d) 22, 14, 16, 41
14, 16, 22, 41

$$Q_1 = 1 \frac{(4+1)}{4} = \frac{5}{4} = 1.25$$

$$Q_1 = 14 + (16 - 14)(0.25)$$

$$Q_1 = 14 + (2)(0.25)$$

$$Q_1 = 14 + 0.5 = 14.5 //$$

R// El cuartil uno es 14.5

$$Q_2 = 2 \frac{(4+1)}{4} = \frac{10}{4} = 2.5 //$$

$$Q_2 = 16 + (22 - 16)(0.5)$$

$$Q_2 = 16 + (6)(0.5)$$

$$Q_2 = 16 + 3 = 19 //$$

R// El cuartil dos es 19.

$$Q_3 = 3 \frac{(4+1)}{4} = \frac{15}{4} = 3.75 //$$

$$Q_3 = 22 + (41 - 22)(0.75)$$

$$Q_3 = 22 + (19)(0.75)$$

$$Q_3 = 22 + 14.25 = 36.25 //$$

R// El cuartil tres es 36.25