

Actividad #6 Bloque II Unidad

Hallar los cuartiles 1, 2, y 3 de las siguientes series de datos no agrupados

a) 35 20 15 5 3 5 6 21

3 5 5 6 15 20 21 35 $(n=8)$

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

$$Q_K = 5 + (5-5)(0.25)$$

$$Q_K = 5 + 0.25$$

$$Q_K = 5.25$$

R// El cuartil 1 es 5.25

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

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

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

$$Q_K = 6 + 4.5$$

$$Q_K = 10.5$$

R// El cuartil 2 es 10.5

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

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

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

$$Q_K = 20.75$$

R// El cuartil 3 es 20.75

b) 15 22 30 18 50 81

↓ ↓ ↓
15 22 30 50 81 (n=6)

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

$$Q_K = 15 + (18 - 15)(0.75)$$

$$Q_K = 15 + (3)(0.75)$$

$$Q_K = 15 + 2.25$$

$$Q_K = 17.25 \quad \text{El cuartil 1 es } 17.25$$

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

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

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

$$Q_K = 22 + (4)$$

$$Q_K = 26 \quad \text{El cuartil 2 es } 26$$

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

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

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

$$Q_K = 50 + 7.75$$

$$Q_K = 57.75 \quad \text{El cuartil 3 es } 57.75$$

c) 22, 14, 16, 41

14 16 22 41 (n=4)

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

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

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

$$Q_K = 14 + 0.50$$

$$Q_K = 14.50$$

El cuartil 1 es 14.50

$$Q_2 = \frac{2(4+1)}{4} = Q = \frac{2(5)}{4} = Q = \frac{10}{4} = Q = 2.50$$

$$Q_K = 16 + (22-16)(0.50)$$

$$Q_K = 16 + (6)(0.50)$$

$$Q_K = 16 + 3$$

$$Q_K = 19$$

El cuartil 2 es 19

$$Q_3 = \frac{3(4+1)}{4} = Q = \frac{3(5)}{4} = Q = \frac{15}{4} = Q = 3.75$$

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

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

$$Q_K = 22 + 14.25$$

$$Q_K = 36.25$$

El cuartil 3 es 36.25