

Ejercicio 5.1

1) Halla el Cuartil uno, dos y tres de la siguiente serie

Datos ordenados

a) 3, 5, 5, 6, 15, 20, 21, 35

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

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

$$Q_1 = 15 (5-5) (0.25 - (3-5)(m) 0.25 (0-5)$$

R// El Cuartil uno es el ~~2.25~~ 2.25

Solución Q2

$$Q_2 = K \frac{(n+1)}{4}$$

R// El Cuartil dos es 10.5

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

$$Q_2 = 16 (15 - (10.5) -$$

$$Q_2 = 6 (9) (0.5 - 2.5) = 2.25 \cdot 6$$

Solución = Q_3

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

$$Q_3 = 3 \left(\frac{3+1}{4} \right) = 3 \left(\frac{4}{4} \right) = \frac{12}{4} = 3$$

$$Q_3 = 30(24-20)(0.15)$$

$$Q_3 = 20(17)(0.15)(3) = 20.15$$

R// El cuartil 3 es 20.15

2) Datos ordenados

15, 18, 22, 30, 50, 81

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

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

$$Q_1 = 15(18-15)(0.15) = 15(3)(0.15) = 2.25$$

15.15

~~Q1 =~~ **R//** El cuartil 1 es 17.25

Solución Q2

$$Q_2 = \frac{K(n+1)}{4}$$

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

$$Q_2 = 22(35-22)(0.5) = 22(8)(0.5) = 4 \times 22 = 26$$

R// El costo 2 es 26

Solución Q3

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

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

$$Q_3 = 50(81-50)(0.25) = 50(31)(0.25) \\ 7.15 \times 7.15 \times 50 = 51.15$$

R// El costo 3 es 51.15

3) Datos ordenados

14, 16, 22, 41

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

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

$$Q_1 = 14(16 - 14)(0.25) = 14(2)(0.25) = 0.5$$

0.5 + 14 = 14.5

R// El cuartil 1 es 14.5

Solución Q2

$$Q_2 = K \frac{(n+1)}{4}$$

$$Q_2 = 2 \left(\frac{4+1}{4} \right) = 2 \left(\frac{5}{4} \right) = \frac{10}{4} = 2.5$$

$$Q_2 = 16(22 - 16)(0.5) = 16(6)(0.5) = 3 + 19$$

R// El cuartil 2 es 19

Solución 3

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

$$Q_3 = \frac{3(2.14)}{4} = \frac{3(5)}{4} = \frac{15}{4} = 3.75$$

$$Q_3 = 3(4+2)(0.15) + 22(19)(0.15) = 14.25$$

$$14.25 + 22 = 36.25$$

R// El costo es 36.25