

**“MATERIA”: ESTADISTICA
DESCRIPTIVA**

PRESENTA:


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PULIDO.**

CUATRIMESTRE: 3°

**LICENCIATURA: CONTADURIA PUBLICA Y
FINANZAS**

SEMIESCOLARIZADO

FECHA DE ENTREGA: 13/JUNIO/2020

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 De la siguiente tabla realice los siguientes cálculos

- * Cuartiles 1, 2, 3.
- * Deciles 2, 4, 6, 8, 9.
- * Percentiles 9, 55, 69, 72

Intervalo	F	F
10-15	8	8
15-20	12	20
20-25	3	23
25-30	6	29
30-35	4	33
35-40	10	43
40-45	9	52
45-50	8	60
50-55	7	67

Cuartiles

Cuartil: 1

$$Q_k = L_i + A \left(\frac{\frac{kn}{4} - F_{i-1}}{F_i - F_{i-1}} \right)$$

$$Q_1 = 15 + 5 \left(\frac{8.75}{12} \right)$$

Posición $\frac{kn}{4} = \frac{1 \cdot 67}{4} = \frac{67}{4} = 16.75$ $Q_1 = 15 + 3.645833333$

$F_{i-1} = 8$ $L_i = 15$
 $F_i = 20$ $A = L_5 - L_0 = 5$

$Q_1 = 18.6458333333$

$$Q_1 = 15 + 5 \left(\frac{16.75 - 8}{20 - 8} \right)$$

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Cuartil 2

$$Q_k = L_i + A \left(\frac{\frac{kn}{4} - F_{i-1}}{F_i - F_{i-1}} \right)$$

$$Q_2 = 35 + 0,25$$

$$Q_2 = 35,25$$

$$\text{Posición } \frac{kn}{4} = \frac{2 \cdot 67}{4} = \frac{134}{4} = 33,5$$

$$F_{i-1} = 33 \quad L_i = 35$$

$$F_i = 43 \quad A = L_0 - L_i = 5$$

$$Q_2 = 35 + 5 \left(\frac{33,5 - 33}{43 - 33} \right)$$

$$Q_2 = 35 + 5 \left(\frac{0,5}{10} \right)$$

Cuartil 3

$$Q_k = L_i + A \left(\frac{\frac{kn}{4} - F_{i-1}}{F_i - F_{i-1}} \right)$$

$$Q_3 = 40 + 4,02777777778$$

$$\text{Posición } \frac{kn}{4} = \frac{3 \cdot 67}{4} = \frac{201}{4} = 50,25$$

$$Q_3 = 44,02777777778$$

$$F_{i-1} = 43 \quad L_i = 40$$

$$F_i = 52 \quad A = L_0 - L_i = 5$$

$$Q_3 = 44,02777777778$$

$$Q_3 = 40 + 5 \left(\frac{50,25 - 43}{52 - 43} \right)$$

$$Q_3 = 40 + 5 \left(\frac{7,25}{9} \right)$$

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Deciles

VERIGREEN

$$\text{Decil: } 2 \quad D_k = L_i + A \left(\frac{\frac{kn}{10} - F_i - 1}{F_i - F_{i-1}} \right)$$

$$\text{posición } \frac{kn}{10} = \frac{2 \cdot 67}{10} = \frac{134}{10} = 13.4$$

$$F_{i-1} = 8$$

$$L_i = 15$$

$$D_2 = 15 + 2.25$$

$$F_i = 20$$

$$A = L_o - L_i = 5$$

$$D_2 = 17.25$$

$$D_2 = 15 + 5 \left(\frac{13.4 - 8}{20 - 8} \right)$$

$$D_2 = 15 + 5 \left(\frac{5.4}{12} \right)$$

$$\text{Decil: } 4 \quad D_k = L_i + A \left(\frac{\frac{kn}{10} - F_i - 1}{F_i - F_{i-1}} \right)$$

$$\text{Posición} = \frac{kn}{10} = \frac{4 \cdot 67}{10} = \frac{268}{10} = 26.8$$

$$F_{i-1} = 23$$

$$L_i = 25$$

$$F_i = 29$$

$$A = L_o - L_i = 5$$

$$D_4 = 28.1666666667$$

$$D_4 = 25 + 5 \left(\frac{26.8 - 23}{29 - 23} \right)$$

$$D_4 = 25 + 5 \left(\frac{3.8}{6} \right)$$

$$D_4 = 25 + 3.1666666667$$

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Decil: 6 $D_k = L_i + A \left(\frac{\frac{kn}{10} - F_{i-1}}{F_i - F_{i-1}} \right)$

Posición = $\frac{kn}{10} = \frac{6 \cdot 67}{10} = \frac{402}{10} = 40.2$

$F_{i-1} = 33$ $L_i = 35$
 $F_i = 43$ $A = L_0 - L_i = 5$

$D_6 = 38.6$

$D_6 = 35 + 5 \left(\frac{40.2 - 33}{43 - 33} \right)$

$D_6 = 35 + 5 \left(\frac{7.2}{10} \right)$

$D_6 = 35 + 3.6$

Decil: 8 $D_k = L_i + A \left(\frac{\frac{kn}{10} - F_{i-1}}{F_i - F_{i-1}} \right)$

Posición = $\frac{kn}{10} = \frac{8 \cdot 67}{10} = \frac{536}{10} = 53.6$

$F_{i-1} = 52$ $L_i = 45$
 $F_i = 60$ $A = L_0 - L_i = 5$

$D_8 = 45 + 5 \left(\frac{53.6 - 52}{60 - 52} \right)$

$D_8 = 45 + 5 \left(\frac{1.6}{8} \right)$

$D_8 = 45 + 1$

$D_8 = 46$

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Decil⁹ $DK = L_i + A \left(\frac{\frac{Kn}{10} - F_{i-1}}{F_i - F_{i-1}} \right)$

Posición = $\frac{Kn}{10} = \frac{9 \cdot 67}{10} = \frac{603}{10} = 60.3$

$F_{i-1} = 60$ $L_i = 50$
 $F_i = 67$ $A = L_5 - L_i = 5$

$D_9 = 50 + 5 \left(\frac{60.3 - 60}{67 - 60} \right)$

$D_9 = 50 + 5 \left(\frac{0.3}{7} \right)$

$D_9 = 50 + 0.2142857143$

$D_9 = 50.2142857143$

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Percentiles

$$\text{Percentil } 9 \quad P_k = L_i + A \left(\frac{\frac{kn}{100} - F_{i-1}}{F_i - F_{i-1}} \right)$$

$$\text{Posición} = \frac{kn}{100} = \frac{9 \cdot 67}{100} = \frac{603}{100} = 6.03$$

$$F_{i-1} = \quad L_i =$$
$$F_i = \quad A = L_s - L_i = 5$$

$$P_9 = L_s = 10$$

$$\text{Percentil } 55 \quad P_k = L_i + A \left(\frac{\frac{kn}{100} - F_{i-1}}{F_i - F_{i-1}} \right)$$

$$\text{Posición} = \frac{kn}{100} = \frac{55 \cdot 67}{100} = \frac{3685}{100} = 36.85$$

$$F_{i-1} = 33 \quad L_i = 35$$
$$F_i = 43 \quad A = L_s - L_i = 5$$

$$P_{55} = 35 + 5 \left(\frac{36.85 - 33}{43 - 33} \right)$$

$$P_{55} = 35 + 5 \left(\frac{3.85}{10} \right)$$

$$P_{55} = 35 + 1.925$$

$$P_{55} = 36.925$$

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$$P_{69} = L_i + A \left(\frac{\frac{kn}{100} - f_i - 1}{f_i - f_{i-1}} \right)$$

$$\text{Posición} = \frac{kn}{100} = \frac{69 \cdot 67}{100} = \frac{4623}{100} = 46.23$$

$$f_i - 1 = 43 \quad L_i = 40$$

$$f_i = 52 \quad A = L_s - L_i = 5$$

$$P_{69} = 40 + 5 \left(\frac{46.23 - 43}{52 - 43} \right)$$

$$P_{69} = 41.7944444444$$

$$P_{69} = 40 + 5 \left(\frac{3.23}{9} \right)$$

$$P_{69} = 40 + 1.7944444444$$

$$P_{72} = L_i + A \left(\frac{\frac{kn}{100} - f_i - 1}{f_i - f_{i-1}} \right)$$

$$\text{Posición} = \frac{kn}{100} = \frac{72 \cdot 67}{100} = \frac{4824}{100} = 48.24$$

$$f_i - 1 = 43 \quad L_i = 40$$

$$f_i = 52 \quad A = L_s - L_i = 5$$

$$P_{72} = 40 + 5 \left(\frac{48.24 - 43}{52 - 43} \right)$$

$$P_{72} = 42.9111111111$$

$$P_{72} = 40 + 5 \left(\frac{5.24}{9} \right)$$

$$P_{72} = 40 + 2.9111111111$$