UDS UNIVERSIDAD DEL SURESTE

"Pasión por educar"

Tema: EJERCICIO

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- NOMBRE DEL DOCENTE: JORGE ENRIQUE ALBORES ALGUILAR
- CARRERA: CONTADURIA Y FINANZAS
- CUATRIMESTRE:3°
- MATERIA: ESTADISTICA DESCRIPTIVA
- COMITÁN DE DOMINGUEZ CHIAPAS, A 14 DE JUNIO DEL 2020

Cuartiles 1, 2, 3

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

$Q_k = L_1 + A\left(\frac{\frac{kn}{4} - Fi-1}{Fi - Fi-1}\right)$ posicion $\frac{kn}{4}$

① $\frac{1 \times 67}{4} = 16.75$ posicion

$F_{1-1} = 8$ $L_1 = 15$

$F_1 = 20$ $A = L_5 - L_1 = 5$

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

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

$Q_1 = 15 + 5(0.72916)$

$Q_1 = 15 + 3.6458$

$Q_1 = 18.6458$

② $Q_2 \rightarrow \frac{2 \times 67}{4} = 33.5$

$F_{1-1} = 33$ $L_1 = 35$

$F_1 = 43$ $A = L_5 - L_1 = 5$

$Q_2 = 35 + 5\left(\frac{33.5 - 33}{43 - 33}\right)$

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

$Q_2 = 35 + 5 \cdot 0.05$

$Q_2 = 35 + 0.25$

$Q_2 = 35.25$

③ $Q_3 \rightarrow \frac{3 \times 67}{4} = 50.25$

$F_{1-1} = 45$ $L_1 = 40$

$F_1 = 52$ $A = L_5 - L_1 = 5$

$Q_3 = 40 + 5\left(\frac{50.25 - 43}{52 - 43}\right)$

$Q_3 = 40 + 5\left(\frac{7.25}{9}\right)$

$Q_3 = 40 + 5 \cdot 0.805$

$Q_3 = 40 + 4.025$

$Q_3 = 44.025$

Deciles 2, 4, 6, 8, 9

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

$$Dk = Li + A\left(\frac{\frac{kn}{10} - Fi-1}{Fi - Fi-1}\right) \quad \text{posicion } \frac{kn}{10}$$

① $D_2 \rightarrow \frac{2 \times 67}{10} = 13.4$

$Fi-1 = 8$ $\quad Li = 15$

$Fi = 20$ $\quad A = Ls - Li = 5$

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

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

$D_2 = 15 + 2.25$

$D_2 = 17.25$

② $D_4 \rightarrow \frac{4 \times 67}{10} = 26.8$

$Fi-1 = 23$ $\quad Li = 25$

$Fi = 29$ $\quad A = Ls - Li = 5$

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

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

$D_4 = 25 + 3.1667$

$D_4 = 28.1667$

③ $\rightarrow \frac{6 \times 67}{10} = 40.2$

$Fi-1 = 33$ $\quad Li = 35$

$Fi = 43$ $\quad A = Ls - Li = 5$

$D_6 = 35 + 5\left(\frac{40.5 - 33}{43 - 33}\right)$

$D_6 = 35 + 5\left(\frac{7.5}{10}\right)$

$D_6 = 35 + 3.75$

$D_6 = 38.75$

④ $D_8 \rightarrow \frac{8 \times 67}{10} = 53.6$

$F_1 - 1 = 52$ $L_1 = 45$
$F_1 = 60$ $A = L_5 - L_1 = 5$

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

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

$D_8 = 45 + 1$
$D_8 = 46$

⑤ $D_9 \rightarrow \frac{9 \times 67}{10} = 60.3$

$F_1 - 1 = 60$ $L_1 = 50$
$F_1 = 67$ $A = L_5 - L_1 = 5$

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

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

$D_9 = 50 + 0.214285$
$D_9 = 50.214285$

Percentil 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

$P_K = L_1 + A\left(\frac{\frac{Kn}{100} - F_{1-1}}{F_1 - F_{1-1}}\right)$ posicion $\frac{Kn}{100}$

① $P_9 \rightarrow \frac{9 \times 67}{100} = 6.03$ → indefinido

② $P_{55} \rightarrow \frac{55 \times 67}{100} = 36.85$

$F_{1-1} = 33$ $L_1 = 35$

$F_1 = 43$ $A = 5$

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

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

$P_{55} = 35 + 1.925$

$P_{55} = 36.925$

③ $P_{69} \rightarrow \frac{69 \times 67}{100} = 46.23$

$F_{1-1} = 43$ $L_1 = 40$

$F_1 = 52$ $A = 5$

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

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

$P_{69} = 40 + 1.794$

$P_{69} = 41.794$

④ $P_{72} \rightarrow \frac{72 \times 67}{100} = 48.24$

$F_{1-1} = 43$ $L_1 = 40$

$F_1 = 52$ $A = 5$

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

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

$P_{72} = 40 + 2.91$

$P_{72} = 42.91$