UDS

PASIÓN POR EDUCAR

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Nombre del trabajo: Ejercicios

Materia: Estadística descriptiva

Grado: 3er cuatrimestre

Grupo: A

Comitán de Domínguez Chiapas a 12 de junio de 2020.

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Cuartiles

Edad	f	f
10-20	8	8
20-30	4	12
30-40	12	24
40-50	8	32
50-60	7	39
60-70	3	42
70-80	6	48
	48	

$$Q_k = Li + \Delta \left(\frac{\frac{kn}{4} - f_{i-1}}{f_i - f_{i-1}} \right)$$

$$Posición = \frac{kn}{4}$$

1 $Q_1 = \frac{1 \cdot 48}{4} = 12$

$Q_1 = 30$

2 $Q_2 = \frac{2 \cdot 48}{4} = 24$

$Q_2 = 40$

3 $Q_3 = \frac{3 \cdot 48}{4} = 36$

$F_{i-1} = 32 \qquad Li = 50$
$f_i = 39 \qquad \Delta = 10$

$Q_3 = 50 + 10 \left(\frac{36-32}{39-32} \right)$

$Q_3 = 50 + 10 \left(\frac{4}{7} \right)$

$Q_3 = 50 + 5.71$

$Q_3 = 55.71$

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Datos	f	f
10-20	8	8
20-30	4	12
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70-80	6	48
	48	

$$D_k = Li + \Delta\left(\frac{\frac{kn}{10} - fi-1}{fi - fi-1}\right)$$ Deciles

$$\text{Posición} = \frac{kn}{10}$$

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2 $D_2 = \frac{2 \cdot 48}{10} = 9.6$

$Fi-1 = 8 \qquad Li = 20$
$fi = 12 \qquad \Delta = 10$

$D_2 = 20 + 10\left(\frac{9.6 - 8}{12 - 8}\right)$

$D_2 = 20 + 10\left(\frac{1.6}{4}\right)$

$D_2 = 20 + 4$

$D_2 = 24$

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4 $D_4 = \frac{4 \cdot 48}{10} = 19.2$

$Fi-1 = 12 \qquad Li = 30$
$Fi = 24 \qquad \Delta = 10$

$D_4 = 30 + 10\left(\frac{19.2 - 12}{24 - 12}\right)$

$D_4 = 30 + 10\left(\frac{7.2}{12}\right)$

$D_4 = 30 + 6$

$D_4 = 36$

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10-20	8	8
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	48	

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$$D_k = L_i + A = \left(\frac{\frac{kn}{10} - f_{i-1}}{f_i - f_{i-1}}\right) \text{ Deciles}$$

$$\text{Posición} = \frac{kn}{10}$$

6
$$D_6 = \frac{6 \cdot 48}{10} = 28.8$$

$f_{i-1} = 24 \qquad L_i = 40$
$f_i = 32 \qquad A = 10$

$$D_6 = 40 + 10 \left(\frac{28.8 - 24}{32 - 24}\right)$$
$$D_6 = 40 + 10 \left(\frac{4.8}{8}\right)$$
$$D_6 = 40 + 6$$
$$D_6 = 46$$

8
$$D_8 = \frac{8 \cdot 48}{10} = 38.4$$

$f_{i-1} = 32 \qquad L_i \; 50$
$f_i = 39 \qquad A = 10$

$$D_8 = 50 + 10 \left(\frac{38.4 - 32}{39 - 32}\right)$$
$$D_8 = 50 + 10 \left(\frac{6.4}{7}\right)$$
$$D_8 = 50 + 9.14$$
$$D_8 = 59.14$$

9
$$D_9 = \frac{9 \cdot 48}{10} = 43.2$$

$f_{i-1} = 42 \qquad L_i = 70$
$f_i = 48 \qquad A = 10$

$$D_9 = 70 + 10 \left(\frac{43.2 - 42}{48 - 42}\right)$$
$$D_9 = 70 + 10 \left(\frac{1.2}{6}\right)$$
$$D_9 = 70 + 2$$
$$D_9 = 72$$

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10-20	8	8
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	48	

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$$P_k = L_i + \Delta = \left(\frac{\frac{kn}{100} - f_{i-1}}{f_i - f_{i-1}} \right)$$

Percentiles

$$Posición = \frac{kn}{100}$$

9

$$P_9 = \frac{9 \cdot 48}{100} = 4.32$$

$f_{i-1} = 0 \qquad L_i = 0$

$f_i = 0 \qquad \Delta = 10$

$$P_9 = 0 + 10 \left(\frac{4.32 - 0}{0 - 0} \right)$$

$$P_9 = 0 + 10 (4.32)$$

$$P_9 = 43.2$$

55

$$P_{55} = \frac{55 \cdot 48}{100} = 26.4$$

$F_{i-1} = 24 \qquad L_i = 40$

$F_i = 32 \qquad \Delta = 10$

$$P_{55} = 40 + 10 \left(\frac{26.4 - 24}{32 - 24} \right)$$

$$P_{55} = 40 + 10 \left(\frac{2.4}{8} \right)$$

$$P_{55} = 40 + 3$$

$$P_{55} = 43$$

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$$P_k = Li + \Delta \left(\frac{\frac{Kn}{100} - fi-1}{fi - fi-1} \right)$$

Percentiles

$$Posición = \frac{Kn}{100}$$

69

$$P_{69} = \frac{69 \cdot 48}{100} = 33.12$$

$fi-1 = 32 \qquad Li = 50$

$fi = 39 \qquad \Delta = 10$

$$P_{69} = 50 + 10 \left(\frac{33.12 - 32}{39 - 32} \right)$$

$$P_{69} = 50 + 10 \left(\frac{1.12}{7} \right)$$

$$P_{69} = 50 + 1.6$$

$$P_{69} = 51.6$$

72

$$P_{72} = \frac{72 \cdot 48}{100} = 34.56$$

$fi-1 = 32 \qquad Li = 50$

$fi = 39 \qquad \Delta = 10$

$$P_{72} = 50 + 10 \left(\frac{34.56 - 32}{39 - 32} \right)$$

$$P_{72} = 50 + 10 \left(\frac{2.56}{7} \right)$$

$$P_{72} = 50 + 3.65$$

$$P_{72} = 53.65$$