



EXAMEN  
SUBDIRECCION ACADEMICA

SAC- FOR-19-2

Tipo: Formato	Disposición: Interno	Emisión	Revisión
Emitido: Dirección Académica	Aprobado: Dirección General	05/08/2016	

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Materia	Estadista descriptiva	Grupo escolarizado		
	Total de Preguntas:			Calificación :

Intervalos

Intervalos	Fi	Fi
15 - 25	10	10
25 - 35	3	13
35 - 45	6	19
45 - 55	7	26
55 - 65	3	29
65 - 75	6	35
75 - 85	9	44
	$n = 44$	

Cuartiles

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

$Q_1 = \frac{1 \cdot 44}{4} = 11$

$F_{i-1} = 10$     $L_i = 25$   
 $F_i = 13$     $\Delta = 10$

$$Q_1 = 25 + 10 \left( \frac{11 - 10}{13 - 10} \right)$$
$$Q_1 = 25 + 3.33$$

$Q_1 = 28.33$

$Q_2 = \frac{2 \cdot 44}{4} = 22$

$F_{i-1} = 19$     $L_i = 45$   
 $F_i = 26$     $\Delta = 10$

$$Q_2 = 45 + 10 \left( \frac{22 - 19}{26 - 19} \right)$$
$$Q_2 = 45 + 4.28$$

$Q_2 = 49.28$

$Q_3 = \frac{3 \cdot 44}{4} = 33$

$F_{i-1} = 29$     $L_i = 65$   
 $F_i = 35$     $\Delta = 10$

$$Q_3 = 65 + 10 \left( \frac{33 - 29}{35 - 29} \right)$$
$$Q_3 = 65 + 6.66$$

$Q_3 = 71.66$

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Deciles

Intervalos	fi	Fi
15-25	10	10
25-35	3	13
35-45	6	19
45-55	7	26
55-65	3	29
65-75	6	35
75-85	9	44

n = 44

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$$Q_k = Li + \Delta \left( \frac{\frac{kn}{10} - Fi-1}{Fi - Fi-1} \right)$$

$$Posición = \frac{kn}{10}$$

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$D_2 = \frac{2 \cdot 44}{10} = 8.8$

$D_2 = 15 + 10 \left( \frac{8.8 - 0}{10 - 0} \right)$

$D_2 = 15 + 10 \left( \frac{8.8}{10} \right)$

$D_2 = 15 + 10 (0.88)$

$D_2 = 15 + 8.8$

$D_2 = 23.8$

$Fi-1 = 0$   
 $Fi = 10$   
 $Li = 15$   
 $\Delta = 10$

$D_4 = \frac{4 \cdot 44}{10} = 17.6$

$Fi-1 = 13$   $Fi = 19$   $Li = 35$   $\Delta = 10$

$D_4 = 35 + 10 \left( \frac{17.6 - 13}{19 - 13} \right)$

$D_4 = 35 + 10 \left( \frac{4.6}{6} \right)$

$D_4 = 35 + 7.66$

$D_4 = 42.66$

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$D_6 = \frac{6 \cdot 44}{10} = 26.4$

$Fi-1 = 26$   $Li = 55$   
 $Fi = 29$   $\Delta = 10$

$D_6 = 55 + 10 \left( \frac{26.4 - 26}{29 - 26} \right)$

$D_6 = 55 + 10 \left( \frac{0.4}{3} \right)$

$D_6 = 55 + 1.33$

$D_6 = 56.33$

$D_8 = \frac{8 \cdot 44}{10} = 35.2$

$Fi-1 = 35$   $Fi = 44$   $Li = 75$   $\Delta = 10$

$D_8 = 75 + 10 \left( \frac{35.2 - 35}{44 - 35} \right)$

$D_8 = 75 + 10 \left( \frac{0.2}{9} \right)$

$D_8 = 75 + 0.22$

$D_8 = 75.22$



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## Percentiles

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$$P_{35} = \frac{35.44}{100} = 15.4$$

$$F_{i-1} = 13 \quad F_i = 19 \quad L_i = 35 \quad \Delta = 10$$

$$P_{35} = 35 + 10 \left( \frac{15.4 - 13}{19 - 13} \right)$$

$$P_{35} = 35 + 10 \left( \frac{2.4}{6} \right)$$

$$P_{35} = 35 + 10(4)$$

$$P_{35} = 35 + 4$$

$$P_{35} = 39$$

$$P_{41} = \frac{44.41}{100} = 18.04$$

$$F_{i-1} = 13 \quad F_i = 19 \quad L_i = 35 \quad \Delta = 10$$

$$P_{41} = 35 + 10 \left( \frac{18.04 - 13}{19 - 13} \right)$$

$$P_{41} = 35 + 10 \left( \frac{5.04}{6} \right)$$

$$P_{41} = 35 + 8.4$$

$$P_{41} = 43.4$$

$$P_{66} = \frac{66.44}{100} = 29.04$$

$$F_{i-1} = 29 \quad L_i = 65$$

$$F_i = 35 \quad \Delta = 10$$

$$P_{66} = 65 + 10 \left( \frac{29.04 - 29}{35 - 29} \right)$$

$$P_{66} = 65 + 10 \left( \frac{0.04}{6} \right)$$

$$P_{66} = 65 + 0.66$$

$$P_{66} = 65.66$$

$$P_5 = \frac{5.44}{100} = 2.2$$

$$P_5 = 15 + 10 \left( \frac{2.2 - 0}{10 - 0} \right)$$

$$F_{i-1} = 0 \quad L_i = 15$$

$$F_i = 10 \quad \Delta = 10$$

$$P_5 = 15 + 10 \left( \frac{2.2}{10} \right)$$

$$P_5 = 17.2$$

$$P_5 = 15 + 2.2$$

$$P_{22} = \frac{22.44}{100} = 9.68$$

$$P_{22} = 15 + 10 \left( \frac{9.68 - 0}{10 - 0} \right)$$

$$F_{i-1} = 0 \quad L_i = 15$$

$$F_i = 10$$

$$\Delta = 10$$

$$P_{22} = 15 + 10 \left( \frac{9.68}{10} \right)$$

$$P_{22} = 15 + 9.68$$

$$P_{22} = 24.68$$