

Semana 6

Indicaciones: Complete la siguiente tabla y calcule los percentiles 15, 70 y 95
 Puntajes obtenidos por 25 alumnos en un examen de estadísticas sociales primero básico

Intervalo	Lr	f	Fa
49-55	48.5	2	2
56-69	55.5	3	5
70-79	69.5	9	14
77-83	76.5	9	23
84-90	83.5	2	25

$$p_r = L_r + \left(\frac{N/100 - f_{aa}}{f} \right) F$$

$$p_{15} = 48.5 + \left(\frac{\frac{25}{100} - f_{aa}}{f} \right) F \quad \frac{25 \times 15}{100} = 3.75$$

$$p_{15} = 55.5 + \left(\frac{3.75 - 2}{3} \right) F \quad p_{15} = 55.5 + \left(\frac{1.75}{3} \right) F$$

$$p_{15} = 55.5 + 0.583 F \quad p_{15} = 55.5 + 40.6 \quad p_{15} = 96.1$$

$$p_{70} = 69.5 + \left(\frac{N/100 - f_{aa}}{f} \right) F \quad \frac{25 \times 70}{100} = 17.5$$

$$p_{70} = 76.5 + \left(\frac{17.5 - 14}{9} \right) F \quad p_{70} = 76.5 + \left(\frac{3.5}{9} \right) F$$

$$p_{70} = 76.5 + 0.39 F \quad p_{70} = 76.5 + 2.73 \quad p_{70} = 79.23$$

VIVO

$$Q_2 = 1.9 + \left(\frac{N}{F} - f_{aa} \right)^2 = \frac{96}{4} = 21.5$$

$$Q_2 = 63.5 + \left(\frac{21.5 - 10}{12} \right)^2 = Q_2 = 63.5 + \frac{(11.5)^2}{12}$$

$$Q_2 = 63.5 + (0.96)^2 = Q_2 = 63.5 + 48 = 68.2$$

$$Q_3 = 1.9 + \left(\frac{3N}{F} - f_{aa} \right)^2 = \frac{129}{4} = 32.25$$

$$Q_3 = 68.5 + \left(\frac{32.25 - 32}{13} \right)^2$$

$$Q_3 = 68.5 + \left(\frac{10.25}{13} \right)^2 = Q_3 = 68.5 + (0.79)^2$$

$$Q_3 = 68.5 + 3.95 = 72.45$$