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**Nombre del trabajo:** Examen 2da. Unidad

**Carrera:** Administración y Estrategias de Negocios

**Materia:** Estadística Descriptiva

**Cuatrimestre:** 3ro.

**Grupo:** A

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INTERVALO	$f_i$	$F_i$
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

Total = 44

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

- Cuartiles

Posición  $\frac{kn}{4} = \frac{1 \cdot 44}{4} = 11$

$F_{i-1} = 10$      $L_i = 25$

$F_i = 13$      $A = L_s - L_i = 10$

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

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

$$Q_1 = 25 + 10 \left( \frac{1}{3} \right)$$

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

$F_{i-1} = 19$

$F_i = 26$

$L_i = 45$

$A = 10$

$$Q_1 = 25 + 3.33$$

$$Q_2 = 45 + 10 \left( \frac{3}{7} \right)$$

$$Q_2 = 45 + 4.2857$$

~~$$Q_1 = 28.33$$~~

~~$$Q_2 = 49.2857$$~~

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

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

$$F_i = 35 \quad A = 10$$

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

$$Q_3 = 65 + 10 \left( \frac{4}{6} \right)$$

$$Q_3 = 65 + 6.66$$

$$Q_3 = 71.66$$

Deciles

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

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

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

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

$$F_i = 10 \quad A = 10$$

$$F_{i-1} = 13 \quad L_i = 35$$

$$F_i = 19 \quad A = 10$$

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

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

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

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

$$D_2 = 15 + 8.8$$

$$D_4 = 42.66$$

$$D_2 = 23.8$$

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

$$F_{i-1} = 26 \quad L_i = 55$$

$$F_i = 29 \quad A = 10$$

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

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

$$D_6 = 55 + 1.33$$

$$D_6 = \underline{\underline{56.33}}$$

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

$$F_{i-1} = 35 \quad L_i = 75$$

$$F_i = 44 \quad A = 10$$

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

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

$$D_8 = 75 + 0.22$$

$$D_8 = \underline{\underline{75.22}}$$

## Percentiles

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

$$P_5 = \frac{kn}{100} = \frac{5 \cdot 44}{100} = 2.2$$

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

$$F_i = 10 \quad A = 10$$

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

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

$$P_5 = 15 + 2.2$$

$$P_5 = \underline{\underline{17.2}}$$

$$P_{22} = \frac{kn}{100} = \frac{22 \cdot 44}{100} = 9.68$$

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

$$F_i = 10 \quad A = 10$$

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

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

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

$$P_{22} = \underline{\underline{24.68}}$$

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$$P_{35} = \frac{Kn}{100} = \frac{35 \cdot 44}{100} = 15.4$$

$$\begin{aligned} F_{i-1} &= 13 & L_i &= 35 \\ F_i &= 19 & A &= 10 \end{aligned}$$

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

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

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

$$\underline{\underline{P_{35} = 39}}$$

$$P_{41} = \frac{41 \cdot 44}{100} = 18.04$$

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

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

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

$$\underline{\underline{P_{41} = 43.4}}$$

$$P_{66} = \frac{66 \cdot 44}{100} = 29.04$$

$$\begin{aligned} F_{i-1} &= 29 & L_i &= 65 \\ F_i &= 35 & A &= 10 \end{aligned}$$

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

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

$$P_{66} = 65 + 0.0666$$

$$\underline{\underline{P_{66} = 65.0666}}$$

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