

Tearea # 8

Puntajes de 25 alumnos en un examen de contabilidad de sociedad

Datos ordenados

49	55	65	66	66	70	72
72	72	74	75	75	76	76
77	78	79	80	81	81	81
81	83	84	90			

$$K = 1 + 3.322 \log(25)$$

$$K = 1 + 3.322 (1.39794)$$

$$K = 1 + 4.64$$

$$K = \underline{\underline{5.64}}$$

$$R = 90 - 49 + 1$$

$$R = 41 + 1$$

$$R = \underline{\underline{42}}$$

$$i = \frac{42}{5.64}$$

$$i = 7.45$$

$$i = \underline{\underline{7}}$$

Puntajes obtenidos de 25 alumnos en un examen de contabilidad de sociedades

K	L - A	Lri	Lrs	xs	f	fa	fxs
1	49 - 55	48.5	55.5	52	2	2	104
2	56 - 62	55.5	62.5	59	0	2	0
3	63 - 69	62.5	69.5	66	3	5	198
4	70 - 76	69.5	76.5	73	9	14	657
5	77 - 83	76.5	83.5	80	9	23	720
6	84 - 90	83.5	90.5	87	2	25	174
							1853

media aritmetica

$$\bar{X} = \frac{1853}{25} = 74.12$$

media

$$md = \frac{25}{2} = 12.50$$

$$md = 69.5 \left(\frac{12.50 - 5}{9} \right) 7$$

$$md = 69.5 \left(\frac{7.5}{9} \right) 7$$

$$md = 69.5 (0.83) 7$$

$$md = 69.50 + 5.81$$

$$md = 75.31$$

meda

$$\Delta_1 = 9 - 3 = 6$$

$$\Delta_2 = 9 - 9 = 0$$

$$ma = 76.5 + \left(\frac{0}{0+7} \right) 7$$

$$ma = 76.5 + (0) 7$$

$$ma = 76.5 + 0$$

$$ma = \underline{76.5}$$

$$\Delta_1 = 9 - 9 = 0$$

$$\Delta_2 = 9 - 2 = 7$$

$$ma = 69.5 + \left(\frac{6}{6+0} \right) 7$$

$$ma = 69.5 + (1) 7$$

$$ma = 69.5 + 7$$

$$ma = \underline{76.5}$$

Cuartiles

Q1

$$Q1 = \frac{1 \times 25}{4} = 6.25$$

$$Q1 = 69.5 + \left(\frac{6.25 - 5}{9} \right) 7$$

$$Q1 = 69.5 + \left(\frac{1.25}{9} \right) 7$$

$$Q1 = 69.5 + (0.14) 7$$

$$Q1 = 69.5 + 0.98$$

$$Q1 = \underline{70.48}$$

Q2

$$Q2 = \frac{2 \times 25}{4} = 12.5$$

$$Q2 = 69.5 + \left(\frac{12.5 - 5}{9} \right) 7$$

$$Q2 = 69.5 + \left(\frac{7.5}{9} \right) 7$$

$$Q2 = 69.5 + (0.83) 7$$

$$Q2 = 69.5 + 5.81$$

$$Q2 = \underline{75.31}$$

Q3

$$Q3 = \frac{3 \times 25}{4} = 18.75$$

$$Q3 = 76.5 + \left(\frac{18.75 - 14}{9} \right) 7$$

$$Q3 = 76.5 + \left(\frac{4.75}{9} \right) 7$$

$$Q3 = 76.5 + (0.53) 7$$

$$Q3 = 76.5 + 3.71$$

$$Q3 = \underline{80.21}$$

Deciles

D₂

$$D_2 = \frac{25 \times 2}{10} = 5$$

$$D_2 = 62.5 + \left(\frac{5 - 2}{3} \right) 7$$

$$D_2 = 62.5 + \left(\frac{3}{3} \right) 7$$

$$D_2 = 62.5 + (1) 7$$

$$D_2 = 62.5 + 7$$

$$D_2 = \underline{69.5}$$

D₆

$$D_6 = \frac{25 \times 6}{10}$$

$$D_6 = 76.5 + \left(\frac{15 - 14}{9} \right) 7$$

$$D_6 = 76.5 + \left(\frac{1}{9} \right) 7$$

$$D_6 = 76.5 (0.11) 7$$

$$D_6 = 76.5 + 0.77$$

$$D_6 = \underline{77.27}$$

D₉

$$D_9 = \frac{25 \times 9}{10} = 22.5$$

$$D_9 = 76.5 + \left(\frac{22.5 - 14}{9} \right) 7$$

$$D_9 = 76.5 + \left(\frac{8.5}{9} \right) 7$$

$$D_9 = 76.5 + (0.94) 7$$

$$D_9 = 76.5 + 6.58$$

$$D_9 = \underline{83.08}$$

Percentiles

P15

$$P15 = \frac{25 \times 15}{100} = 3.75$$

$$P15 = 62.5 + \left(\frac{3.75 - 2}{3} \right) 7$$

$$P15 = 62.5 + \left(\frac{1.75}{3} \right) 7$$

$$P15 = 62.5 + (0.58) 7$$

$$P15 = 62.5 + 4.06$$

$$P15 = \underline{66.56}$$

P70

$$P70 = \frac{25 \times 70}{100} = 17.50$$

$$P70 = 76.5 + \left(\frac{17.50 - 14}{9} \right) 7$$

$$P70 = 76.5 + \left(\frac{3.5}{9} \right) 7$$

$$P70 = 76.5 + (0.39) 7$$

$$P70 = 76.5 + 2.73$$

$$P70 = \underline{79.23}$$

P95

$$P95 = \frac{25 \times 95}{100} = 23.75$$

$$P95 = 83.5 + \left(\frac{23.75 - 23}{2} \right) 7$$

$$P95 = 83.5 + \left(\frac{0.75}{2} \right) 7$$

$$P95 = 83.5 + (0.38) 7$$

$$P95 = 83.5 + 2.66$$

$$P95 = \underline{86.16}$$

Polígono de frecuencias

Puntos obtenidos de 25 alumnos en un examen de contabilidad



X