

Semana 8

1. Ordene los datos

45	45	50	50	50	55	60
60	60	60	60	60	60	61
61	61	63	63	65	66	67
67	68	69	69	72	72	73
73	74	74	75	75	75	76
78	79	80	80	83	99	

2. K

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

$$K = 1 + 3.322 \log(41)$$

$$K = 1 + 3.322 (1.61278)$$

$$K = 1 + 5.36$$

$$K = 10.36$$

3. R

$$R = 99 - 45 + 1$$

$$R = 54 + 1$$

$$R = 55$$

4. I

$$i = \frac{R}{K}$$

$$i = \frac{55}{6.36}$$

$$i = 8.65$$

$$i = 8$$

5. Media aritmética, Media y Moda

$$\bar{x} = \frac{2,708.5}{41} = 66.06$$

$$Md = 68.5 + \left(\frac{20.5 - 23}{12} \right) 8$$

$$Md = 68.5 + (0.21) 8$$

$$Md = 68.5 + 1.68$$

$$Md = 70.18$$

$$Mo = 68.5 + (0.22) 8$$

$$Mo = 68.5 + 1.76$$

$$Mo = 70.26$$

6. Cuartiles 1 y 3

$$Q1 = 68.5 + \left(\frac{10.25 - 23}{12} \right) 8$$

$$Q1 = 68.5 + \left(\frac{12.75}{12} \right) 8$$

$$Q1 = 68.5 + (1.06) 8$$

$$Q1 = 68.5 + 8.48$$

$$Q1 = 76.98$$

$$Q3 = 76.5 + \left(\frac{30.75 - 35}{5} \right) 8$$

$$Q3 = 76.5 + \left(\frac{4.25}{5} \right) 8$$

$$Q3 = 76.5 + (0.85) 8$$

$$Q3 = 76.5 + 6.80 \quad Q3 = 83.30$$

Tabla de datos con intervalos

K	L	-	A	Lri	Lrs	xs	f	Fa	Exs
1	4	5	-	52	44.5	52.5	48.5	55	242.5
2	5	3	-	60	52.5	60.5	56.5	813	452
3	6	1	-	68	60.5	68.5	64.5	1023	645
4	6	9	-	76	68.5	76.5	72.5	1235	870
5	7	7	-	84	76.5	84.5	80.5	540	402.5
6	8	5	-	92	84.5	92.5	88.5	040	0
7	9	3	-	100	92.5	100.5	96.5	141	96.5
								41	2,708.5

d	(xs - $\bar{x}$)	f d	(xs - $\bar{x}$) ²	f(xs - $\bar{x}$) ²
1	7.56	87.8	308.35	1.541.95
	9.56	76.48	91.39	31.12
	1.56	15.6	2.43	24.3
	6.44	77.28	41.47	497.64
1	4.44	72.2	208.51	1,042.55
	22.44	0	503.55	0
	30.44	30.44	926.59	926.59
			359.8	4,763.95

7 Deciles 3 y 7

$$D_3 = 60.5 + \left(\frac{12.3 - 13}{10} \right) 8$$

$$D_3 = 60.5 + \left(\frac{0.7}{10} \right) 8$$

$$D_3 = 60.5 + (0.07) 8$$

$$D_3 = 60.5 + 0.56$$

$$D_3 = 61.06$$

$$D_7 = 68.5 + \left(\frac{12.3 - 23}{12} \right) 8$$

$$D_7 = 68.5 + \left(\frac{10.7}{12} \right) 8$$

$$D_7 = 68.5 + (2.89) 8$$

$$D_7 = 68.5 + 7.12 \quad D_7 = 75.62$$

8. Percentiles 75 y 90

$$P75 = 76.5 + \left(\frac{30.75 - 35}{5} \right) 8$$

$$P75 = 76.5 + \left(\frac{4.25}{5} \right) 8$$

$$P75 = 76.5 + (0.85) 8$$

$$P75 = 76.5 + 6.8 \quad P75 = 83.3$$

$$P90 = 84.5 + \left(\frac{36.9 - 40}{0} \right) 8$$

$$P90 = 84.5 + \left(\frac{3.1}{0} \right) 8$$

$$P90 = 84.5 + (3.1) 8$$

$$P90 = 84.5 + 24.8$$

$$P90 = 109.3$$

9. Desviación Media, Estándar y Coeficiente de variación o dispersión.

$$DM = \frac{359.8}{41} \quad DM = 8.78$$

$$S = \sqrt{116.19} \quad S = 10.78$$

$$V = \frac{10.78}{66.06} \times 100 = 16.32\%$$

10. Construya un diagrama de sectores.

