Actividad 8 Fernando David Rivera

1) ordene datos

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

2) Calcule K

$K = 1 + 3.322 \log (N)$
$K = 1 + 3.322 \log (25)$
$K = 1 + 3.322 (1.39794)$
$K = 5.64$

3) Calcular R

$90 - 49 = 41$
$41 + 1 = 42$

4) Calcule I

$K = \frac{5.64}{42} = i) 7.45 \; i = 7$

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

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

Mediana

$Md = lri + \left(\frac{N}{2} - faa\right) i$

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

$Md = 69.5 + (0.83) 7$

$Md = 69.5 + 5.81$

$Md = 75.31$

Moda

$MO = lri + \left(\frac{\Delta 1}{\Delta 1 + \Delta 2}\right) i$

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

$MO = 76.5 + 0$

$MO = 76.5$

Calcular Cuartiles 1, 2, 3

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

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

$Q1 = 69.5 + 0.98$

$Q1 = 70.48$

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

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

$Q2 = 69.5 + (0.83) 7$

$Q_2 = 69.5 + 5.81$

$Q_2 = 75.31$

$Q_3 \quad \frac{25}{4} \times 3 = 18.75$

$Q_3 = 76.5 + \left(\frac{18.75}{9} - 14\right)7$

$Q_3 = 76.5 + \left(\frac{4.75}{9}\right)7$

$Q_3 = 76.5 + (0.53)7$

$Q_3 = 76.5 + 3.71$

$Q_3 = 80.21$

Calcule deciles 2, 6 y 9

$D_2 = \frac{45}{10} \times 2 = 5$

$Q_2 = 62.5 + \left(\frac{5-2}{3}\right)7$

$Q_2 = 62.5 + \left(\frac{3}{3}\right)7$

$Q_2 = 62.5 + (1)7$

$Q_2 = 62.5 + 7$

$Q_2 = 69.5$

$\frac{25}{10} \times 6 = 15 =$

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

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

$D_6 = 76.5 + (0.11)7$

D6 = 76.5 + 0.77

D6 = 77.27

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

D9 = $76.5 + \left(\frac{22.5 - 14}{9}\right)7$

D9 = $76.5 + \left(\frac{22.5 - 14}{9}\right)7$

D9 = $76.5 + \left(\frac{8.5}{9}\right)7$

D9 = 76.5 + (0.94)7

D9 = 76.5 + 6.58

D9 = 83.08

Calcule percentiles 15, 70 y 90

P75 = $\frac{25}{100} \times 15 = 3.75$

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 = 66.56

P70 = $\frac{25}{100} = 17.5$

P70 = $76.5 + \left(\frac{17.5 - 14}{9}\right)7$

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

P70 = 76.5 + (0.39)7

$P70 = 76.5 + 2.75$

$P70 = 79.23$

$P95 \quad \frac{25}{100} x = 23.75$

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

$p95 = 83.5 + \left(\frac{0.75}{2}\right) 7$

$P95 = 83.5 + (0.38) 7$

$P95 = 83.5 + 2.66$

$P95 = 86.16$

Poligono de Frecuencia.