



Estadística

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GRADO: 4to Perito en Administración de
Empresas

Tarea#8

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

K =

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

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

$$K = 1 + 5.367166$$

$$K = 6.36$$

R =

$$R = 99 - 45 + 1$$

$$R = 54 + 1$$

$$R = 55$$

i =

$$i = 55 / 6.36$$

$$i = 8.65$$

$$i = 9$$

Punteos obtenidos en un exámen de Estudios Sociales por 41 alumnos

K	LA	Lri	Lrs	xs	f	FO	f x S	$ d = xs - \bar{x} $	f d	$(xs - \bar{x})^2$	$f(xs - \bar{x})^2$	Fr	Grado	%
1	45 - 53	44.5	53.5	49	5	5	245	17.78	88.90	316.13	1,580.65	0.1220	44	12.2
2	54 - 62	53.5	62.5	58	11	16	638	8.78	96.58	77.09	847.99	0.2683	97	26.83
3	63 - 71	62.5	71.5	67	9	25	603	0.22	1.98	0.05	0.45	0.2195	79	21.95
4	72 - 80	71.5	80.5	76	14	39	1,064	9.22	129.08	85.01	1,190.14	0.3415	123	34.15
5	81 - 89	80.5	89.5	85	1	40	85	18.22	18.22	331.97	331.97	0.0244	9	2.44
6	90 - 98	89.5	98.5	94	0	40	0	27.22	0	740.93	0	0	0	0
7	99 - 107	98.5	107.5	103	1	41	103	36.22	36.22	1,311.89	1,311.89	0.0244	9	2.44
							2,738			370.98	5,263.09			

$$\bar{x} = \frac{2,738}{41} = 66.78$$

Mediana

$$md = 62.5 + \left(\frac{20.5 - 16}{9} \right) 9$$

$$md = 62.5 + \left(\frac{4.5}{9} \right) 9$$

$$md = 62.5 + (0.5) 9$$

$$md = 62.5 + 4.5$$

$$md = 67$$

Moda

$$md = 71.5 + \left(\frac{5}{13 + 5} \right) 9$$

$$mo = 71.5 + \left(\frac{5}{18} \right) 9$$

$$mo = 71.5 + (0.28) 9$$

$$mo = 71.5 + 2.52$$

$$mo = 74.02$$

$$\Delta 1 = 14 - 9 = 5$$

$$\Delta 2 = 14 - 1 = 13$$

Quartiles

$$Q_1 = 53.5 + \left(\frac{10.25 - 5}{11} \right) 9$$

$$Q_1 = 53.5 + \left(\frac{5.25}{11} \right) 9$$

$$Q_1 = 53.5 + (0.48) 9$$

$$Q_1 = 53.5 + 4.32$$

$$Q_1 = 57.82$$

Q_3

$$Q_3 = 71.5 + \left(\frac{30.75 - 25}{14} \right) 9$$

$$Q_3 = 71.5 + \left(\frac{5.75}{14} \right) 9$$

$$Q_3 = 71.5 + (0.41) 9$$

$$Q_3 = 71.5 + 3.69$$

$$Q_3 = 75.19$$

Deciles

$$D_3 = 53.5 + \frac{(12.3 - 5)}{11} 9$$

$$D_3 = 53.5 + \frac{(7.3)}{11} 9$$

$$D_3 = 53.5 + (0.66) 9$$

$$D_3 = 53.5 + 5.94$$

$$D_3 = 59.44$$

$$D_7 =$$

$$D_7 = 71.5 + \frac{(28.7 - 25)}{14} 9$$

$$D_7 = 71.5 + \frac{(3.7)}{14} 9$$

$$D_7 = 71.5 + (0.26) 9$$

$$D_7 = 71.5 + 2.34$$

$$D_7 = 73.84$$

Percentiles

$$P_{75} = 71.5 + \frac{(30.75 - 25)}{14} 9$$

$$P_{75} = 71.5 + \frac{(5.75)}{14} 9$$

$$P_{75} = 71.5 + (0.41) 9$$

$$P_{75} = 71.5 + 3.69$$

$$P_{75} = 75.19$$

P_{90}

$$P_{90} = 71.5 + \frac{(36.9 - 25)}{14} 9$$

$$P_{90} = 71.5 + \frac{(11.9)}{14} 9$$

$$P_{90} = 71.5 + (0.85) 9$$

$$P_{90} = 71.5 + 7.65$$

$$P_{90} = 79.15$$

$$D.M. = \frac{370.98}{41} = 9.05$$

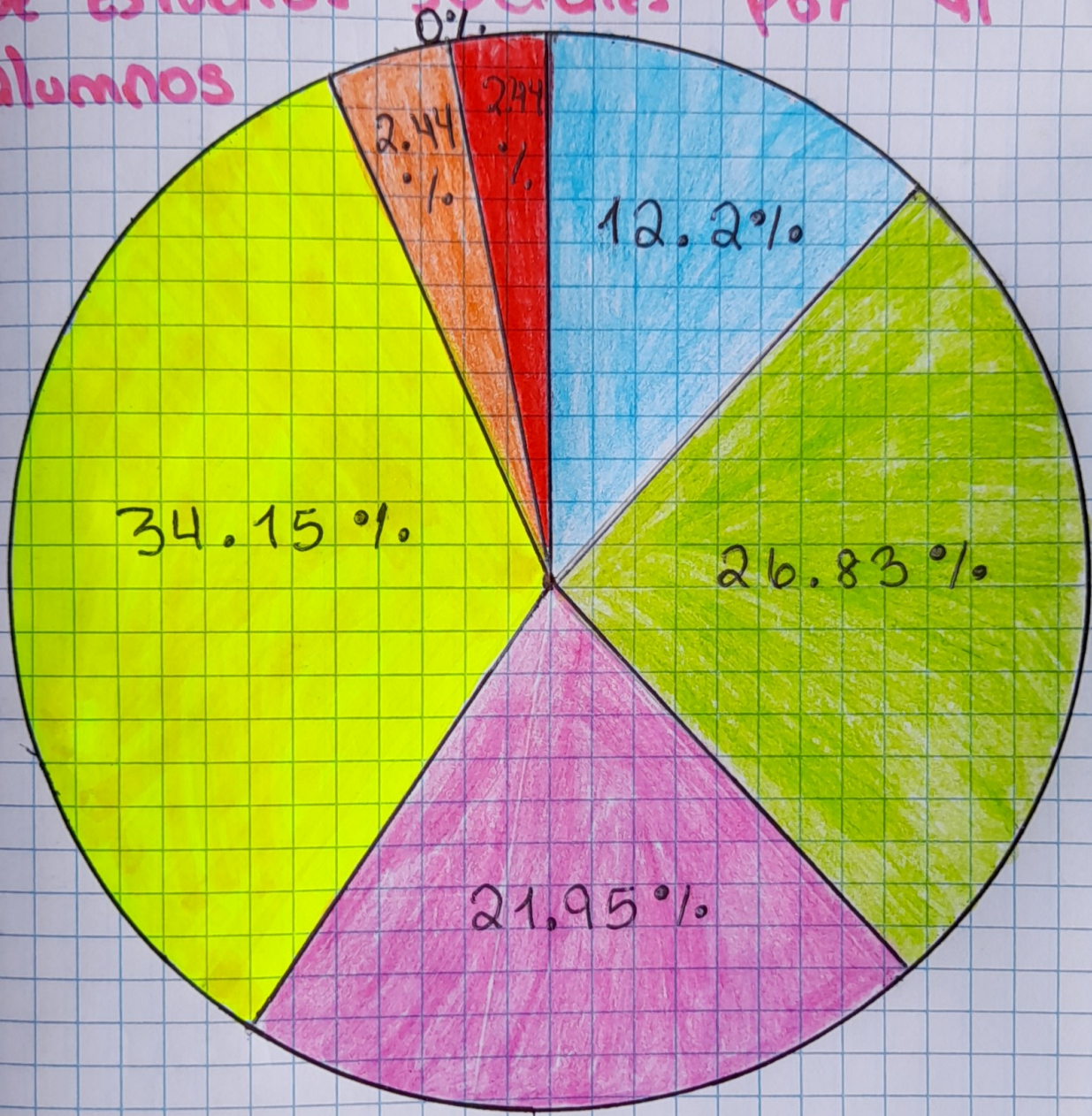
$$S = \sqrt{\frac{5,263.09}{41}} = \sqrt{128.37} = 11.33$$

$$V = \frac{11.33}{66.78} \times 100 = 16.97\%$$

“La media es bastante representativa”

Diagrama de Sectores

Puntos obtenidos en un examen de Estudios Sociales por 41 alumnos



49 58 67 76 85 94 103