

30-01-23

Tarea

Heydi Uiancy

Media, mediana y moda por intervalos

~~15~~ ~~34~~ ~~16~~ ~~34~~ ~~37~~ ~~32~~ ~~36~~ ~~20~~ ~~29~~ ~~15~~ ~~36~~ ~~18~~
~~15~~ ~~37~~ ~~18~~ ~~37~~ ~~35~~ ~~33~~ ~~24~~ ~~25~~ ~~17~~ ~~27~~ ~~30~~
~~20~~ ~~17~~ ~~40~~ ~~33~~ ~~20~~ ~~27~~ ~~28~~ ~~36~~ ~~17~~ ~~36~~ ~~39~~ ~~22~~
~~15~~ ~~24~~ ~~25~~ ~~25~~ 40

Media $\bar{X} =$

Mediana $Me =$

Moda $Mo =$

$K \rightarrow$ Regla de Sturges

$K = 1 + 3,322 \log n$ 40

$K = 6,32$

$= 7$

$R = X_{max} - X_{min}$

$= 40 - 15$

$= 25$

$\frac{15 + 40}{2}$

$x = \frac{15 + 40}{2} = 27,5$

① $R = 25$

② $K = \text{intervalos } 7$

③ $A = \frac{3,57}{7}$

$25/7 = 3,57$

edades	X_i	F_i	Fr	F
15-19	17	10	0.25	10
19-23	21	4	0.1	14
23-27	25	6	0.15	20
27-31	29	6	0.15	26
31-35	33	6	0.15	32
35-40	37,5	8	0.2	40
		40	1	

$Fr_i = \frac{F_i}{N} = \frac{10}{40} = 0,25$

Tarca

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Datos agrupados en intervalos

$$\bar{X} = \frac{\sum x_i f_i}{N}$$

Edades	x_i	f_i	F	$x_i \cdot f_i$
15-19	17	10	10	170
19-23	21	4	14	84
23-27	25	6	20	150
27-31	29	6	26	174
31-35	33	6	32	198
35-40	37.5	8	40	296
		40		1072

$$\bar{X} = 26,8 \text{ años}$$

$$M_c = 20 \text{ años}$$

$$M_o = 23,2 \text{ años}$$

$$\bar{X} = 1072 / 40 = 26,8 \text{ años}$$

$$\text{Impar } \frac{N+1}{2}$$

$$40/2 = 20 = F$$

$$a = L_s - L_i = 4$$

$$\text{Par } \frac{N}{2}$$

$$M_c = L_s = 27$$

$$M_c = L_i + \frac{\frac{N}{2} - F_i - 1}{f_i} \cdot A_i = 23 + \frac{20 - 10 - 1}{6} \cdot 4$$

$$23 + \frac{10}{6} \cdot \frac{4}{1} = 23 + \frac{40}{6} = 23 + 6,66$$
$$M_c = 29,666$$

$$M_o = L_i + \frac{f_i - f_i - 1}{(f_i - f_i - 1) + (f_i - f_i + 1)} \cdot A = 23 + \frac{6 - 4}{(6 - 4) + (6 - 6)} \cdot 4$$

$$23 + \frac{2}{(2 + 0)} \cdot 2$$

$$= 23 + \frac{2}{2} \cdot \frac{2}{1} = 23 + \frac{4}{2} = 23,2$$