



Nombre del alumno: Abigail Tlamani Lopez

Nombre del profesor: Sebastián Domínguez

Materia: Estadística

Cuatrimestre V

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BRH



# Medias de DC Tendencia central

a) realizar una tabla de frecuencia:

En un cine se desea saber que clientes visitan mas sus salas y asi poder lanzar promociones. Por ello se recabaron los datos de las edades de los asistentes:

~~17, 34, 16, 34, 27, 32, 26, 29, 15~~

~~36, 18, 15, 38, 18, 37, 19, 35, 33, 24, 25, 17~~

~~27, 30, 26, 17, 40, 34, 26, 27, 28, 36, 17, 30~~

~~39, 22, 18, 24, 28, 25~~

$$\text{Rango} = 40 - 15 = 25$$

$$K = 1 + 3.322 \log 40 = 6.32 = 7 \checkmark$$

Ampl. fud

$$A = \frac{B}{B} = \frac{25}{6.32} = 3.95 = 4 \checkmark$$

Clase	$x_i$	$f_i$	$F_y$	$F_i$	%
15-19	17	10	0.25	10	25%
19-23	21	4	0.1	14	10%
23-27	25	6	0.15	20	15%
27-31	29	7	0.175	27	17.5%
31-35	33	5	0.125	32	12.5%
35-39	37	6	0.15	38	15%
39-43	41	2	0.05	40	5%

Media:

$x_i$   $f_i$

170
84
190
203
165
222
82

$$\bar{x} = \frac{\sum x_i \cdot f_i}{n}$$

$$\bar{x} = \frac{7,076}{40}$$

$$\bar{x} = 26.9$$

Moda:  $M_o = li + \frac{f_i - f_{i-1}}{(f_i - f_{i-1}) + (f_i - f_{i+1})} \cdot a$

$$M_o = 15 + \frac{10 - 0}{(10 - 0) + (10 - 4)} \cdot 4$$

$$M_o = 15 + \frac{10}{10 + 6} \cdot 4$$

$$M_o = 15 + \frac{10}{16} \cdot 4$$

$$M_o = 15 + \frac{40}{16}$$

7 100%

Mediana

$$Me = li + \frac{\frac{n}{2} - f_{i-1}}{f_i} \cdot a$$

$$Me = 23 + \frac{20 - 14}{6} \cdot 4$$

$$Me = 23 + \frac{6}{6} \cdot 4$$

$$Me = 23 + \frac{24}{6}$$

$$Me = 23 + 4$$

$$Me = 27$$

$$M_o = 15 + 2.5 \quad M_o = 17$$