

UNIVERSIDAD DEL SURESTE

LIC. EN ADMINISTRACION DE EMPRESAS

3ER CUATRIMESTRE

DOCENTE

JORGE ENRIQUE ALBORES AGUILAR

MATERIA

ESTADÍSTICA DESCRIPTIVA

TRABAJO

EJERCICIO

ALUMNO

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COMITÁN DE DOMÍNGUEZ, CHIAPAS.

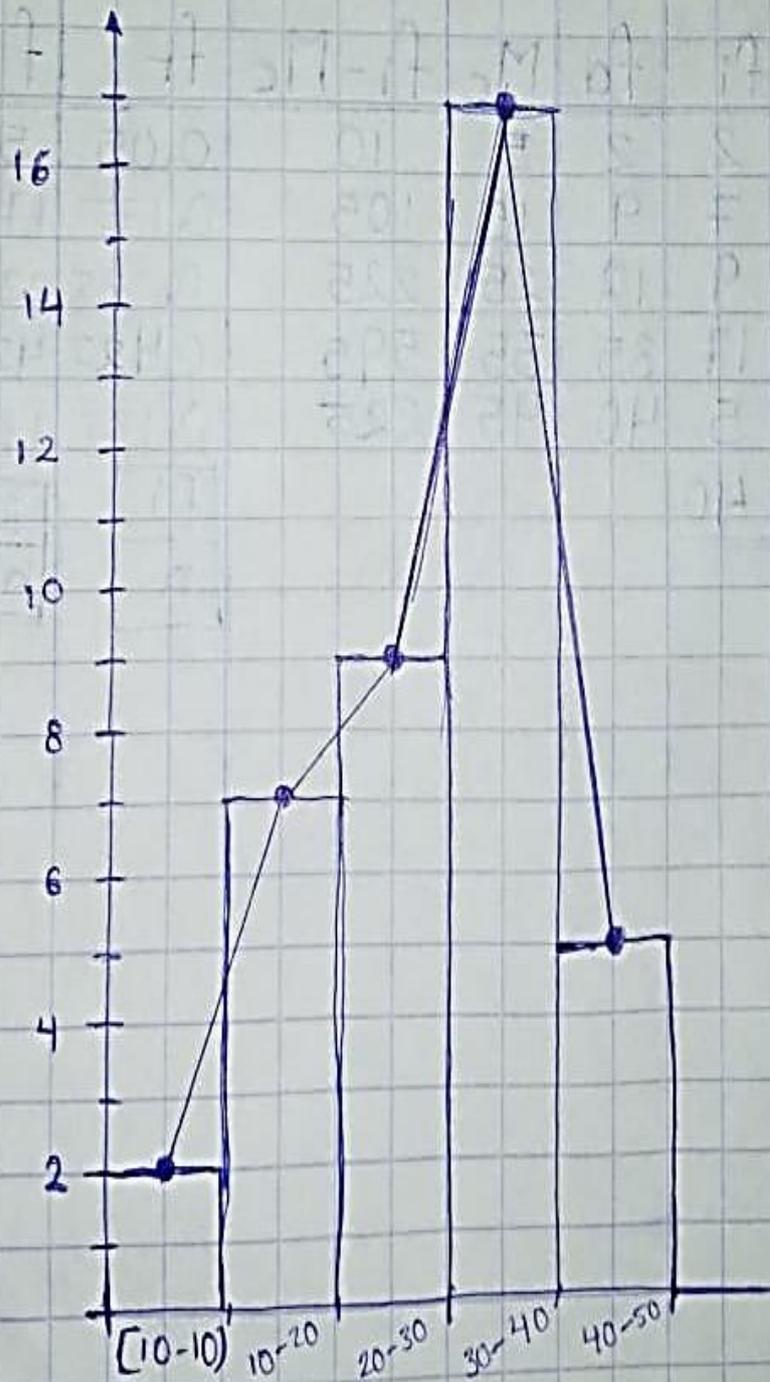
DOMINGO 23 DE MAYO

2020

Los 40 alumnos de una clase han obtenido las siguientes puntuaciones. sobre 50, en un examen de Física:

32, 35, 28, 38, 41, 48, 15, 32, 3, 15, 24, 28, 33,
 35, 42, 38, 23, 38, 36, 34, 29, 25, 17, 7, 34, 36,
 39, 44, 31, 26, 20, 11, 13, 22, 27, 47, 39, 37, 34, 13.

DATOS	f_i	f_a	M_c	$f_i - M_c$	f_r	$f\%$
(0-10)	2	2	5	10	0.05	5%
(10-20)	7	9	15	105	0.175	17,5%
(20-30)	9	18	25	225	0.225	22,5%
(30-40)	17	35	35	595	0.425	42,5%
(40-50)	5	40	45	225	0.125	12,5%
	<u>$n = 40$</u>				$\frac{f_i}{n}$	$\frac{f_i \cdot 100}{n}$



Promedio (\bar{X})

$$\bar{X} = \frac{\sum M_c \cdot f_a}{n} = \frac{10 + 105 + 225 + 595 + 225}{40}$$

$$= \frac{1160}{40} = 29$$

Moda (M_o)

$$Li + \left(\frac{f_i + 1}{(f_i - 1) + (f_i + 1)} \right) \cdot a_i$$

$$M_o = 30 + \left(\frac{5}{9 + 5} \right) \cdot 10 = 33,57$$

Mediana (M)

$$\begin{aligned} * fac &\geq \frac{N}{2} \\ fac &\geq 20 \end{aligned}$$

$$Li + \left(\frac{\frac{N}{2} - (fac - 1)}{f_a} \right) \cdot a_i$$

$$M = 30 + \left(\frac{20 - 18}{17} \right) \cdot 10 = 31,17$$

Percentil

$$P_{70} = \frac{n \cdot 70}{100} = \frac{40 \cdot 70}{100} = 28 \leq \text{fac}$$

$$= Li + \left(\frac{\frac{Xn}{100} - (\text{fac} - 1)}{fi} \right) \cdot ai$$

$$30 + \left(\frac{28 - 18}{17} \right) \cdot 10$$

$$P_{70} = 35,88$$

Tercer Cuartil

$$Q_3 = \frac{N \cdot 75}{100} = \frac{40 \cdot 75}{100} = 30 \leq \text{fac}$$

$$Q_3 = Li + \left(\frac{Q_3 - (\text{fac} - 1)}{fi} \right) \cdot ai$$

$$30 + \left(\frac{30 - 18}{17} \right) \cdot 10$$

$$Q_3 = 37,05$$