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**Nombre del trabajo: cálculos**

**Materia: Estadística descriptiva**

**Grado: 3ro**

**Grupo: A-13 Administración Y Estrategias de negocios**

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

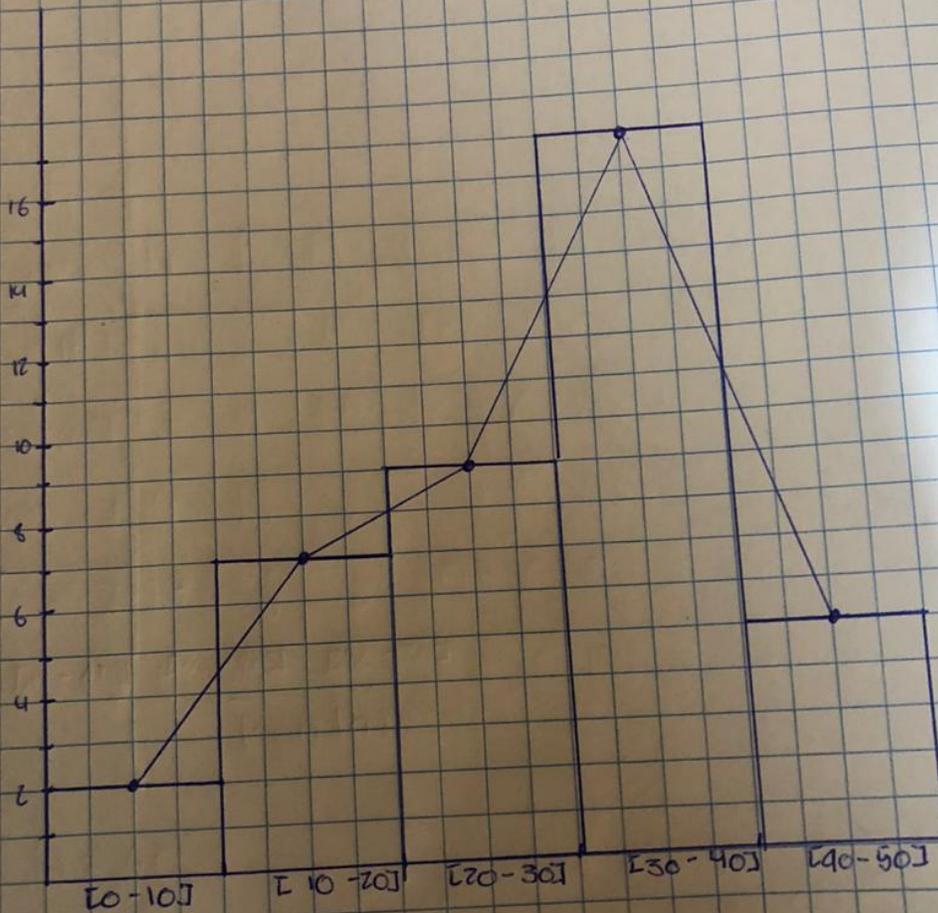
→ 32, 35, 28, 58, 44, 48, 15, 32, 3, 15, 24,  
 28, 33, 35, 38, 42, 23, 38, 36, 34, 29, 25, 17, 7,  
 34, 36, 59, 44, 31, 26, 20, 11, 13, 22, 27, 47,  
 39, 13

Datos	$f_i$	$f_c$	$Mc$	$f_i, Mc$	$f_a$	$f_i$
[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%

$$n = 40$$

$$\frac{f_i}{n} + \frac{f_i}{n} = 100$$

# Histograma



UBAK

## Drömedio ( $\bar{x}$ )

$$\bar{x} = \frac{\sum Mc \cdot fa}{n} = \frac{10 + 105 + 225 + 595 + 225}{40}$$
$$= \frac{1160}{40} = 29 \quad \checkmark$$

## Moda ( $M_o$ )

$$Li + \left( \frac{f_i + 1}{(f_{i-1}) + (f_i + 1)} \right) \cdot ai$$

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

## Mediana ( $M$ ) $\times$ $fac = 20$

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

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

Percentil 70

$$P_{70} = \frac{N \cdot 70}{100} = \frac{40 \cdot 70}{100} = 28 \leq 400$$

$$= Li + \left( \frac{X_n - (fac-1)}{f_i} \right) \cdot ai$$

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

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

Tercer Coartil

$$Q_3 = \frac{N \cdot 75}{100} = \frac{40 \cdot 75}{100} = 30 \leq f_9$$

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

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

$$Q_3 = \underline{37,05}$$