



DATOS

AGRUPADOS

38, 56, 80, 42, 68, 45  
 70, 40, 75, 41, 53, 54  
 78, 42, 66, 45, 64, 58  
 55, 56, 73, 56, 47, 64  
 38, 67, 79, 49, 44, 48

Numero Mayor: 80  
 Numero Menor: 38  
 Numero de intervalo: 7

Formula

$$\text{Rango} = \frac{\text{Nu. Mayor} - \text{Nu. Menor}}{\text{Nu. Intervalo}}$$

$$\text{Rango} = \frac{80 - 38}{7} = \frac{42}{7} = 6$$

Intervalo	$f_i$	$\%f_i$	$f_{io}$	$\%f_{io}$	$\bar{X}_i$	$f_i \bar{X}_i$	$\bar{X}_i^2$	$f_i \bar{X}_i^2$
38-44	8	22.22%	8	22.22%	41	328	1681	13,448
44-50	5	13.88%	13	36.11%	47	235	2209	11,045
50-56	3	8.33%	16	44.44%	53	159	2809	8,427
56-62	4	11.11%	20	55.55%	59	236	3481	13,924
62-68	4	11.11%	24	66.66%	65	260	4225	16,900
68-74	5	13.88%	29	80.55%	71	355	5041	25,205
74-80	7	19.44%	36	100%	77	539	5929	41,503
						<u>2,112</u>		<u>130,452</u>

$L_1$   $L_5$  + 36

## Media

$$\bar{X} = \frac{2,112}{36} = \underline{\underline{58.66}}$$

## Mediana

$$\frac{n}{2} = \frac{36}{2} = \underline{\underline{18}}$$

$$Me = 56 + \frac{18 - 16}{4} \cdot 6$$

$$Me = \underline{\underline{59}}$$

## Moda

$$Mo = 38 + \frac{8 - 7}{8 - 7 + (8 - 5) \cdot 6} = \underline{\underline{39.5}}$$

## Varianza

$$s^2 = 130,452 - \frac{(2,112)^2}{36}$$
$$\frac{\quad}{35} = 187.08$$

$$s^2 = \underline{\underline{13.67}}$$



## Media

$$\bar{X} = \frac{917.5}{25} = \underline{36.7}$$

## Mediana

$$Me = 35 + \frac{12.5 - 12.5}{2}$$

$$\frac{n}{2} = \frac{25}{2} = \underline{12.5}$$

$$Me = \underline{36.25}$$

## Moda

$$Mo = 45 + \frac{7 - 4}{(7 - 4) + (7 - 0)} = 0.5 = \underline{46.5}$$

## Varianza

$$s^2 = \frac{35,656.25 - \frac{(917.5)^2}{25}}{24} = \underline{82.66}$$

$$s^2 = \underline{9.09}$$



## Media

$$X = \frac{3400}{56} = \underline{60.71} //$$

## Mediana

$$Me = 56 + \frac{28 - 20 \cdot 6}{10}$$

$$\frac{n}{2} = \frac{56}{2} = \underline{28} //$$

$$Me = \underline{60.8} //$$

## Moda

$$Mo = \frac{59 + 77}{2} = \underline{68} //$$

## Varianza

$$s^2 = 273,752 - \frac{(3400)^2}{56}$$
$$\frac{56}{55} = \underline{133.15} //$$

$$s^2 = \underline{17.53} //$$

## Actividad ①

$$N = 45000$$

$$p = 0.3$$

$$q = 0.7$$

$$B = 3\% = 0.03$$

$$n = 914$$

$$D = \frac{B^2}{4} = \frac{(0.03)^2}{4} = \underline{0.000225} //$$

$$n = \frac{npq}{(n-1)D + pq}$$

$$n = \frac{(45000)(0.3)(0.7)}{(44999)(0.000225) + (0.3)(0.7)} = 913.3 = \underline{914} //$$

## Actividad ②

$$N = 20000$$

$$p = 72.5\% = 0.725$$

$$q = 0.275$$

$$B = 5\% = 0.05$$

$$n = 314$$

$$D = \frac{B^2}{4} = \frac{(0.05)^2}{4} = \underline{0.000625} //$$

$$n = \frac{npq}{(n-1)D + pq}$$

$$n = \frac{(20000)(0.725)(0.275)}{(19999)(0.000625) + (0.725)(0.275)} = 314.00$$

$$\underline{n = 314} //$$



Actividad ③

$$N = 50000$$

$$p = 76\% = 0.76$$

$$q = 0.24$$

$$B = 4\% = 0.04$$

$$n = 452$$

$$D = \frac{B^2}{4} = \frac{(0.04)^2}{4} = \underline{0.0004}$$

$$n = \frac{npq}{(n-1)p + pq}$$

$$n = \frac{(50000)(0.76)(0.24)}{(49999)(0.0004) + (0.76)(0.24)} = 457.88 = \underline{452}$$

Actividad ④

$$N = 10000$$

$$p = 0.5$$

$$q = 0.5$$

$$B = 5\% = 0.05$$

$$n = 385$$

$$D = \frac{B^2}{4} = \frac{(0.05)^2}{4} = \underline{0.000625}$$

$$n = \frac{npq}{(n-1)p + pq}$$

$$n = \frac{(10000)(0.5)(0.5)}{(9999)(0.000625) + (0.5)(0.5)} = 384.65 = \underline{385}$$

### Actividad ⑤

$$N = 25000$$

$$p = 55\% = 0.55$$

$$q = 0.45$$

$$B = 2\% = 0.02$$

$$n = 246$$

$$D = \frac{B^2}{4} = \frac{(0.02)^2}{4} = \underline{0.0001} //$$

$$n = \frac{npq}{(n-1)D + pq}$$

$$n = \frac{(25000)(0.55)(0.45)}{(24999)(0.0001) + (0.55)(0.45)} = 245.08 = \underline{246} //$$

### Actividad ⑥

$$N = 15000$$

$$p = 66\% = 0.66$$

$$q = 0.34$$

$$B = 3\% = 0.03$$

$$n = 936$$

$$D = \frac{B^2}{4} = \frac{(0.03)^2}{4} = \underline{0.000225} //$$

$$n = \frac{npq}{(n-1)D + pq}$$

$$n = \frac{(15000)(0.66)(0.34)}{(14999)(0.000225) + (0.66)(0.34)} = 935.21 = \underline{936} //$$