



PASIÓN POR EDUCAR

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Nombre del trabajo: ejercicios

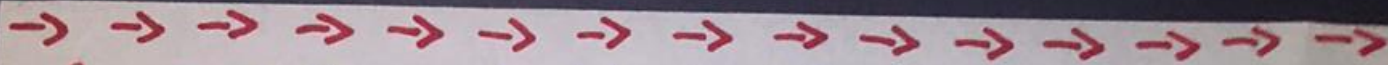
Materia: Bioestadística

Grado: 4to

Grupo: "B"

Comitán de Domínguez Chiapas a 12 de septiembre de 2018.

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Plano = N.M - menor / NO. Intervalos $\therefore \frac{80 - 36}{6} = 6$

Intervalo	FP	%FP	Fia	%Fia	\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	13448
44-50	5	13.88	13	36.11	47	235	2209	11045
50-56	3	8.33	16	44.44	53	159	2809	8427
56-62	4	11.11	20	55.55	59	236	3481	13924
62-68	4	11.11	24	66.66	65	260	4225	16900
68-74	5	13.88	29	80.55	71	355	5041	25205
74-80	7	19.44	36	100	77	539	5929	4503

$\sum f_i = 36$
 $\sum f_i \bar{x}_i = 2132$
 $\sum f_i \bar{x}_i^2 = 130952$

Media
 $(\bar{x} = \frac{\sum f_i \bar{x}_i}{n}) \bar{x} = \frac{2132}{36} = 59.22$

Moda

$$\frac{Lp + fi - fp - 1}{fp - fp - 1 + fi - fp + 1} = ai$$

$$MO = \frac{38 + 8 - 0 - 6}{(8 - 0) + (8 - 5)} = 42.36$$

Mediana

$$Me = Li + \frac{\frac{n}{2} - fi - 1 \cdot ai}{fi}$$

$\frac{n}{2} + \frac{36}{2} = 18$
 $Me = \frac{56 + 18 - 16 \cdot 6}{4}$
 $Me = \frac{56 + 2 \cdot 6}{4}$
 $Me = 09$

Varianza

$$S^2 = \frac{\sum f_i \bar{x}_i^2 - \frac{(\sum f_i \bar{x}_i)^2}{n}}{n-1}$$

$$S^2 = \frac{130952 - \frac{(2132)^2}{36}}{35}$$

$$S^2 = 134.00$$

$$S \sqrt{134} = S = 11.57$$

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RANGO: $50 - 20 / 6 = 5$

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INTERVALO	f_i	% f_i	olo f_{iq}	\bar{x}_i	f_{ix}	f_{ix}	\bar{x}_i^2	$f_i \bar{x}_i^2$
20-25	3	12	12	22.5	3	67.5	506.25	1587.5
25-30	4	16	28	27.5	7	110	756.25	3025
30-35	5	20	48	32.5	12	162.5	1056.25	2281.25
35-40	2	8	56	37.5	11	75	1406.25	2812.5
40-45	4	16	72	42.5	18	170	1806.25	7225
45-50	7	28	100	47.5	25	322.5	2256.25	15793.75

$\sum f = 25$
 $\sum f_i \bar{x}_i = 907.5$
 $\sum f_i \bar{x}_i^2 = 36656.25$

Media

$(\bar{x} = \frac{\sum f_i \bar{x}_i}{n}) = \frac{907.5}{25} = 36.3$

Mediana

$C_{me} = Li + \frac{\frac{n}{2} - f_{ia-1}}{f_i} \cdot a_i$ $\frac{n}{2} = \frac{25}{2} = 12.5$

$Me = \frac{35 + 12.5 - 12}{2} = 36.25$

Moda

$C_{mo} = \frac{Li + f_i - f_{i-1}}{f_i - f_{i-1} + f_{i+1} - f_i} \cdot a_i$

$mo = \frac{5 + 7 - 4}{(7-4) + (7-0)} \cdot 5 = 46.5$

Varianza

$$s^2 = \frac{\sum f_i \bar{x}_i^2 - \frac{(\sum f_i \bar{x}_i)^2}{n}}{n-1}$$

$$s^2 = \frac{36656.25 - \frac{(907.5)^2}{25}}{24} = \frac{2714}{24} = 113.08$$

$s = \sqrt{113.08}$

$s = 10.63$

ΕΞΕΡΧΙΣΜΟΙ

ΕξERCICIO # 1

$$N = 95000$$

$$p = 0.5$$

$$q = 1 - p = 1 - 0.5 = 0.5$$

$$B = 3\% = 0.03$$

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

$$n = \frac{N \cdot p \cdot q}{(N-1)B + p \cdot q}$$

$$n = \frac{95000 (0.5) (0.5)}{(94999) + (0.5)(0.000225)}$$
$$= 1084.36$$

$$n = 1085.$$

ΕξERCICIO # 2

$$N = 20000$$

$$p = 72.5\% = 0.725$$

$$q = 1 - 0.725 = 0.275$$

$$B = 5\% = 0.05$$

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

$$n = \frac{N \cdot p \cdot q}{(N-1)B + p \cdot q}$$

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

$$n = 314$$

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Ejercicio # 3

$$N = 50000$$

$$P = 76\% = 0.76$$

$$q = 1 - P = 1 - 0.76 = 0.24$$

$$B = 4\% = 0.04$$

$$n = \frac{N \cdot P \cdot q}{(N-1)D + P \cdot q}$$

$$D = \frac{B^2}{4}$$

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

$$n = \frac{50000(0.76)(0.24)}{49999(0.0004) + (0.76)(0.24)} = 951.88$$

$$n = 952$$

Ejercicio # 4

$$N = 10000$$

$$P = 0.5$$

$$q = 1 - P = 1 - 0.5 = 0.5$$

$$B = 5\% = 0.05$$

$$n = \frac{N \cdot P \cdot q}{(N-1)D + P \cdot q}$$

$$D = \frac{B^2}{4}$$

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

$$n = \frac{N \cdot P \cdot q}{(N-1)D + P \cdot q}$$

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

$$n = 385$$

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Ejercicio # 3

$$N = 50000$$

$$P = 76\% = 0.76$$

$$q = 1 - P = 1 - 0.76 = 0.24$$

$$B = 4\% = 0.04$$

$$n = \frac{N \cdot P \cdot q}{(N-1) \cdot D + P \cdot q}$$

$$D = \frac{B^2}{4}$$

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

$$n = \frac{50000 (0.76)(0.24)}{99999 (0.0004) + (0.76)(0.24)} = 951.88$$

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Ejercicio # 4

$$N = 10000$$

$$P = 0.5$$

$$q = 1 - P = 1 - 0.5 = 0.5$$

$$B = 5\% = 0.05$$

$$n = \frac{N \cdot P \cdot q}{(N-1) \cdot D + P \cdot q}$$

$$D = \frac{B^2}{4}$$

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

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

$$n = 385$$

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Ejercicio # 5

$$N = 25000$$

$$p = 55\% = 0.55$$

$$q = 1 - p = 1.0 - 0.55 = 0.45$$

$$B = 2\% = 0.02$$

$$n = \frac{N \cdot p \cdot q}{(n-1)D + p \cdot q}$$

$$D = \frac{B^2}{4}$$

$$D = \frac{(0.02)^2}{4}$$

$$D = 0.0001$$

$$n = \frac{25000 (0.55)(0.45)}{29999 (0.0001) + (0.55)(0.45)} = 2252.12$$

$$n = 2253$$

Ejercicio # 6

$$N = 15000$$

$$p = 66\% = 0.66$$

$$q = 1 - p = 1.0 - 0.66 = 0.34$$

$$B = 3\% = 0.03$$

$$n = \frac{N \cdot p \cdot q}{(n-1)D + p \cdot q}$$

$$(n-1)D + p \cdot q$$

$$D = \frac{B^2}{4} = 0.000225$$

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

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

$$n = 936$$

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BIBLIOGRAFIA

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