



Nombre de alumno:

LAURA CAMILA ORTEGA ALFONZO

Nombre del profesor:

JORGE ENRIQUE ALBORES AGUILAR

Nombre del trabajo:

DATOS AGRUPADOS CALCULOS

Materia:

ESTADISTICA DESCRIPTIVA

Grado: 3

Grupo: A

Ejercicio 1.

21	21	23	25	25	28	29	30	30	31
33	33	34	35	39	40	40	43	43	44
44	44	46	47	48	49	49	50	50	50

Rango : $N_{ma} - N_{me}$
 $50 - 21 = 29$

Amplitud : $N_{ma} - N_{me} + 1$
 $(50 - 21) + 1 = 30$
 $\frac{30}{6} = 5$

% fi

$\frac{f}{N} (100) = \frac{5}{30} (100) = 16.6$

Intervalos	fi	% fi	fca	% fca	\bar{x}_i	fixi
21 - 26	5	16.6	5	16.6	23.5	117.5
27 - 32	5	16.6	10	33.3	29.5	147.5
33 - 38	4	13.3	14	46.6	35.5	142
39 - 44	8	26.6	22	73.3	41.5	332
45 - 50	8	26.6	30	100	47.5	380

Sumatoria : 30

$f_i \bar{x}_i^2$	m	me	mo	s^2	s
552.25	37.3	39.75	45	1209.5	34.77
870.25					
1260.25					
1722.25					
2256.25					

$\sum fix_i = 1,119$

$\sum fix_i^2 = 6,661.25$

media:

mediana:

moda:

Varianza:

$\frac{\sum f_i \cdot x_i}{n}$

$39 + \frac{30 - 14}{8} = 39 + \frac{16}{8} = 39 + 2 = 41$

$39 + \frac{4}{7+9} = 39 + \frac{4}{16} = 39 + 0.25 = 39.25$

$\frac{6661.25 - \frac{(1,119)^2}{30}}{30}$

$\frac{1,119}{30} = 37.3$

$39 + \frac{15 - 14}{8} = 39 + \frac{1}{8} = 39 + 0.125 = 39.125$

$39 + (1)6 = 45$

$\frac{6661.25 - \frac{1,119^2}{30}}{29} = \frac{6661.25 - 41,738.7}{29} = 1,209.5$

% fia:

$\frac{f_{ca}}{n} (100)$

$39 + \left[\frac{1}{8} \right] = 39 + 0.125 = 39.125$

$X_i = \frac{L_{mc} + L_{mg}}{2}$

$= \frac{5}{30} (100) = 16.6$

$39 + 0.75 = 39.75$

$= \frac{21 + 26}{2} = 23.5$

$= 16.6$

$fix_i = (5)(23.5) = 117.5$

Ejercicio 2.

33 33 39 40 41 41 42 42 44 45 49 53 57
 55 56 56 56 58 67 67 66 67 68 70 73 75
 78 79 80 80

Rango: $N_{\max} - N_{\min}$
 $80 - 33 = 47$

Amplitud: $\frac{N_{\max} - N_{\min} + 1}{N^{\circ} \text{ intervalos}}$

$\% f_i: \frac{F}{N} (100) = \frac{2}{30} (100) = 6.6$

$\frac{(80 - 33) + 1}{8} = 6$
 $6 - 1 = 5$

Intervalos	f_i	$\% f_i$	f_{ia}	$\% f_{ia}$	\bar{x}_i	f_{ix}	\bar{x}_i^2	
33 - 38	11	2	6.6	2	6.6	35.5	71	1260.25
39 - 44	1111111	7	23.3	9	30	41.5	290.5	1722.25
45 - 50	11	2	6.6	11	36.6	47.5	95	2256.25
51 - 56	111111	6	20	17	56.6	53.5	321	2862.25
57 - 62	1	1	3.3	18	60	59.5	59.5	3540.25
63 - 68	11111	5	16.6	23	76.6	65.5	327.5	4290.25
69 - 74	11	2	6.6	25	83.3	71.5	143	5112.25
75 - 80	11111	5	16.6	30	100	77.5	387.5	6006.25

f_{ix}^2 m me mo s^2 s
 2520.5 56.5 55 41.4 197.9 14.06

- 12055.7
- 4512.4
- 17173.5
- 3540.2
- 21451.2
- 10229.5
- 30.31.2

media: $\frac{1195.1}{30}$
 mediana: $\frac{51 + \frac{(15-11)(6)}{6}}{6}$
 moda: $\frac{39 + \frac{(7-2)(6)}{(7-2)(7+2)}}{(6)}$
 $= 56.5$ $= 55$ $= 41.14$

Varianza: $\frac{101509.5 - \frac{(1695.1)^2}{30}}{30-1}$
 Desviación Estándar: $S = \sqrt{197.9}$
 $S = 14.06$
 $\% f_{ia}: \frac{f_{ia}}{30} (100)$
 $X_i: \frac{L_{me} + L_{ma}}{2}$
 $= 197.9$

