



Nombre de alumno:

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Nombre del profesor:

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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 | fi _a | % fi _a | \bar{x}_i | fi \bar{x}_i |
|------------|----|------|-----------------|-------------------|-------------|----------------|
| 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 | \sum^2 | S |
|-------------------|------|-------|----|----------|-------|
| 552.25 | 37.3 | 39.75 | 45 | 1209.5 | 39.77 |
| 870.25 | | | | | |
| 1260.25 | | | | | |
| 1722.25 | | | | | |
| 2256.25 | | | | | |

$\sum f_i x_i = 1,119$

$\sum f_i x_i^2 = 6,661.25$

media:

mediana:

moda:

Varianza:

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

$39 + \left[\frac{30 - 14}{2} \right] \cdot \frac{1}{8}$

$39 + \left(\frac{4}{7+9} \right) \cdot 6$

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

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

$39 + \left[\frac{15 - 14}{8} \right] \cdot 6$

$39 + (1) \cdot 6 = 45$

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

% fi_a:

$\frac{f_{i a}}{n} (100)$

$39 + \left[\frac{1}{8} \right] \cdot 6$

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

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

$39 + 0.75 = 39.75$

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

$= 16.6$

$f_i \bar{x}_i = (5)(23.5) = 117.5$

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

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

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

| 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 | 3590.25 |
| 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
- 3590.2
- 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: $S = \sqrt{197.9}$
 $S = 14.06$
 $\% f_{ia}: \frac{f_{ia}}{30} (100)$
 $X_i: \frac{L_{me} + L_{ma}}{2}$
 $= 197.9$

