

COLEGIO CIENTIFICO MONTESSORI, SOLOLA  
BACHILLERATO EN CIENCIAS Y LETRAS CON ORIENTACIÓN EN COMPUTACIÓN  
ESTADISTICA DESCRIPTIVA  
MEDIDAS DE TENDENCIA CENTRAL Y DE DISPERSION PARA DATOS AGRUPADO

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| Edad      | Marca de clas | Frecuencia absoluta | Frecuencia acumulada |
|-----------|---------------|---------------------|----------------------|
| [10 - 19) | 14.5          | 5                   | 5                    |
| [19 - 28) | 23.5          | 11                  | 16                   |
| [28 -37)  | 32.5          | 8                   | 24                   |
| [37 - 46) | 41.5          | 5                   | 29                   |
| [46 - 55) | 50.5          | 8                   | 37                   |
| [55 - 64) | 59.5          | 6                   | 43                   |
| [64 - 73) | 68.5          | 7                   | 50                   |
|           |               | 50                  |                      |

Con los datos anteriores encuentra

**Media**

$$C_i \cdot f_i / n = 2039 / 50 = \mathbf{40.78}$$

**Mediana**

$$Me = L_i + \frac{n/2 - F_{i-1}}{f_i} \cdot t_i =$$

$$Me = 37 + \frac{50/2 - 24}{5} \cdot 9 = 37 + \frac{1}{5} \cdot 9 = 37 + \frac{9}{5} = 37 + 1.80 = \mathbf{38.80}$$

**Moda**

$$L_{mo} + \frac{D_a}{D_b + D_a} \cdot C =$$

$$19 + \frac{(11-5)}{(11-8) + (11-5)} \cdot 9 = 19 + \frac{6}{3+6} \cdot 9 = 19 + \frac{6}{9} \cdot 9 = 19 + \frac{54}{9} = 19 + 6 = \mathbf{25}$$

**Rango**

$$R = 73 - 10 = \mathbf{63}$$

**Varianza**

$$O = \frac{\sum f_i (X_i - \mu)^2}{n} = \frac{15526.08}{50} = \mathbf{310.52}$$

| $X_i - \mu$ o Media | $(X_i - \mu)^2$ | $f_i (X_i - \mu)^2$ |
|---------------------|-----------------|---------------------|
| -26.28              | 690.64          | 3453.192            |
| -17.28              | 298.60          | 3284.5824           |
| -8.28               | 68.56           | 548.4672            |
| 0.72                | 0.52            | 2.592               |
| 9.72                | 94.48           | 755.8272            |
| 18.72               | 350.44          | 2102.6304           |
| 27.72               | 768.40          | 5378.7888           |
|                     |                 | 15526.08            |

**Desviación estándar**

$$O = \sqrt{310.52} = \mathbf{17.62}$$