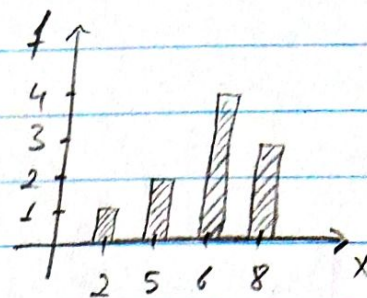


(A)

| X_i | f_i | $X_i \cdot f_i$ | f_i | F_i | $F_{\%}$ |
|-------|--------------|-----------------|-------|-------|----------|
| 2 | 1 | 2 | 10% | 1 | 10% |
| 5 | 2 | 10 | 20% | 3 | 30% |
| 6 | 4 | 24 | 40% | 7 | 70% |
| 8 | 3 | 24 | 30% | 10 | 100% |
| | \downarrow | \downarrow | 100% | | |



$$\sum f_i = 10 \quad \sum X_i \cdot f_i = 60$$

A1. $\bar{X} = \frac{\sum X_i \cdot f_i}{\sum f_i} = \frac{60}{10} = \underline{\underline{6}}$

A2. (TABELA ACIMA)

A3. (AO LADO DA TABELA)

A4. $DMS = \frac{\sum |X_i - \bar{X}| \cdot f_i}{\sum f_i} = \frac{12}{10} = \underline{\underline{1,2}}$

$$|X_1 - \bar{X}| \cdot f_1 = |2 - 6| \cdot 1 = 4 \cdot 1 = 4$$

$$|X_2 - \bar{X}| \cdot f_2 = |5 - 6| \cdot 2 = 1 \cdot 2 = 2$$

$$|X_3 - \bar{X}| \cdot f_3 = |6 - 6| \cdot 4 = 0 \cdot 4 = 0$$

$$|X_4 - \bar{X}| \cdot f_4 = |8 - 6| \cdot 3 = 2 \cdot 3 = 6$$

$$12 \leftarrow \sum |X_i - \bar{X}| \cdot f_i$$

$$\sigma^2(x) = \frac{\sum (X_i - \bar{X})^2 \cdot f_i}{\sum f_i} = \frac{30}{10} = \underline{\underline{3}}$$

$$(X_1 - \bar{X})^2 \cdot f_1 = (2 - 6)^2 \cdot 1 = 4^2 \cdot 1 = 16$$

$$(X_2 - \bar{X})^2 \cdot f_2 = (5 - 6)^2 \cdot 2 = 1^2 \cdot 2 = 2$$

$$(X_3 - \bar{X})^2 \cdot f_3 = (6 - 6)^2 \cdot 4 = 0^2 \cdot 4 = 0$$

$$(X_4 - \bar{X})^2 \cdot f_4 = (8 - 6)^2 \cdot 3 = 2^2 \cdot 3 = 12$$

$$30$$

$$\sum (X_i - \bar{X})^2 \cdot f_i = 30$$

A5. DESVIO PADRÃO: $\sigma = \sqrt{\sigma^2(x)} = \sqrt{3} \approx \underline{\underline{1,73}}$

COEF. DE VARIAÇÃO: $CV_x = \frac{\sigma(x)}{\bar{x}} = \frac{1,73}{6} \approx \underline{\underline{0,29}}$

A6. $\left\{ \begin{array}{l} K_2 = P_{40} \quad (P_{40})^o = \frac{i \cdot n}{100} = \frac{40 \cdot 10}{100} = 4^o \text{ elemento} \\ \end{array} \right.$

Logo:

$K_2 = 6$, isto é, 40% dos elementos possuem o valor ≤ 6 e 60% dos elementos possuem o valor ≥ 6

$\left\{ \begin{array}{l} D_6 = P_{60} \quad (P_{60})^o = \frac{i \cdot n}{100} = \frac{60 \cdot 10}{100} = 6^o \text{ elemento} \\ \end{array} \right.$

Logo:

$D_6 = 6$, isto é, 60% dos elementos possuem o valor ≤ 6 e 40% dos elementos possuem o valor ≥ 6

*A7. $A_s = \frac{\bar{x} - M_0}{\sigma(x)}$ $\left\{ \begin{array}{l} A_s = 0 \quad \text{DIST. SIMÉTRICA} \\ A_s < 0 \quad \text{DIST. ASS. NEGATIVA} \\ A_s > 0 \quad \text{DIST. ASS. POSITIVA} \end{array} \right.$

Temos: $\left. \begin{array}{l} \bar{x} = 6 \\ M_0 = 6 \\ \sigma(x) = 1,73 \end{array} \right\} A_s = \frac{6-6}{1,73} = \underline{\underline{0}}$

"Logo, a distribuição é simétrica segundo o coeficiente de Pearson"

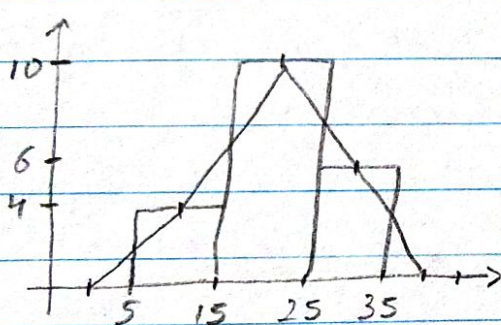
(B)

| CLASSE | INT. CLASSE | f_i | x_i | $x_i \cdot f_i$ | f_i | F_i | F_{ni} |
|--------|-------------|-------|-------|-----------------|-------|-------|----------|
| 1 | 5-15 | 4 | 10 | 40 | 20% | 4 | 20% |
| 2 | 15-25 | 10 | 20 | 200 | 50% | 14 | 70% |
| 3 | 25-35 | 6 | 30 | 180 | 30% | 20 | 100% |
| | | 20 | | 420 | | | |

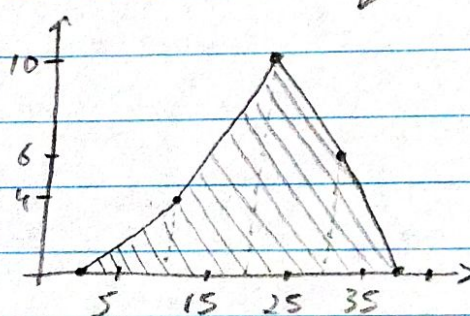
$$B1. \bar{x} = \frac{\sum x_i \cdot f_i}{\sum f_i} = \frac{420}{20} = \underline{\underline{21}}$$

B2. (TABELA ACUMULADA)

B3.



POLIGONO



$$B4 \quad DMS = \frac{\sum |x_i - \bar{x}| \cdot f_i}{\sum f_i} = \frac{108}{20} = \underline{\underline{5,4}}$$

$$|x_1 - \bar{x}| \cdot f_1 = |10 - 21| \cdot 4 = 11 \cdot 4 = 44$$

$$|x_2 - \bar{x}| \cdot f_2 = |20 - 21| \cdot 10 = 1 \cdot 10 = 10$$

$$|x_3 - \bar{x}| \cdot f_3 = |30 - 21| \cdot 6 = 9 \cdot 6 = 54$$

$$\begin{array}{r} 44 \\ 10 \\ 54 \\ \hline 108 \end{array} \leftarrow \sum |x_i - \bar{x}| \cdot f_i$$

$$\sigma^2(x) = \frac{\sum (x_i - \bar{x})^2 \cdot f_i}{\sum f_i} = \frac{980}{20} = \underline{\underline{49}}$$

$$(x_1 - \bar{x})^2 \cdot f_1 = (10 - 21)^2 \cdot 4 = 11^2 \cdot 4 = 121 \cdot 4 = 484$$

$$(x_2 - \bar{x})^2 \cdot f_2 = (20 - 21)^2 \cdot 10 = 1^2 \cdot 10 = 1 \cdot 10 = 10$$

$$(x_3 - \bar{x})^2 \cdot f_3 = (30 - 21)^2 \cdot 6 = 9^2 \cdot 6 = 81 \cdot 6 = 486$$

$$\begin{array}{r} 484 \\ 10 \\ 486 \\ \hline 980 \end{array} \leftarrow \sum (x_i - \bar{x})^2 \cdot f_i$$

