x_i	f_i	$x_i f_i$	fr_i %	F_i	Fr_i %
0	32	0	41	32	41
1	28	28	35	60	76
2	11	22	14	71	90
3	4	12	5	75	95
4	3	12	4	78	99
5	1	5	1	79	100
	79	79	100%		

1.1 $\overline{X} = \frac{\Sigma x_i f_i}{\Sigma f_i} = \frac{79}{79} = 1$ Em média, existe 1 defeito por caixa.

1.2 $fr_1 = \frac{32}{79} = 0,41$ 41% $fr_4 = \frac{4}{79} = 0,05$ 5%

$fr_2 = \frac{28}{79} = 0,35$ 35% $fr_5 = \frac{3}{79} = 0,04$ 4%

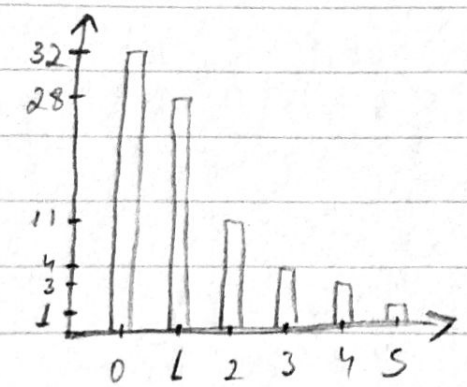
$fr_3 = \frac{11}{79} = 0,14$ 14% $fr_6 = \frac{1}{79} = 0,01$ 1%

1.3 14%

1.4 90%

1.5 5%

1.6



1.7 $n = 79$ elementos (impar)

$$(m_d)^\circ = \frac{n+1}{2} = \frac{80}{2} = 40^\circ \rightarrow m_d = 1$$

1.8 $m_o = 0$ (elemento que mais se repete)

1.9 $A_t = 5 - 0 = 5$

1.10 $$DMS = \frac{\sum |x_i - \bar{x}| f_i}{\sum f_i}$$

$$DMS = \frac{|x_1 - \bar{x}| f_1 + |x_2 - \bar{x}| f_2 + |x_3 - \bar{x}| f_3 + \cdots + |x_6 - \bar{x}| f_6}{\sum f_i}$$

$$DMS = \frac{|0-1|32 + |1-1|28 + |2-1|11 + |3-1|4 + |4-1|3 + |5-1|1}{79}$$

$$DMS = \frac{32 + 0 + 11 + 8 + 9 + 4}{79} = \frac{64}{79} \simeq 0,81$$

$DMS \approx 0,81$

1.11 $$\sigma^2 = \frac{\sum (x_i - \bar{x})^2 . f_i}{\sum f_i}$$

$$\sigma^2 = \frac{(0-1)^2.32 + (1-1)^2.28 + (2-1)^2.11 + (3-1)^2.4 + (4-1)^2.3 + (5-1)^2.1}{\sum f_i}$$

$$\sigma^2 = \frac{32 + 0 + 11 + 16 + 27 + 16}{79} = \frac{102}{79} = 1,29$$

1.12 $\sigma = \sqrt{\sigma^2} = \sqrt{1,29} \simeq 1,13$

1.13 $CV = \frac{\sigma}{\bar{x}} = \frac{1,13}{1} = 1,13$

1.14 $V = \frac{\sigma^2}{\bar{x}^2} = \frac{1,13^2}{1^2} \simeq 1,27$

1.15 $Q_1 = P_{25}$

$(P_{25})^\circ = \frac{1.4}{100} \cdot \frac{25.79}{100} = \frac{1975}{100} = 19,75^\circ \begin{cases} 19^\circ = 0 \\ 20^\circ = 0 \end{cases} \quad \frac{0+0}{2} = 0$

Logo $Q_1 = 0$

1.16 $Q_3 = P_{75}$

$(P_{75})^\circ = \frac{1.4}{100} \cdot \frac{75.79}{100} = \frac{5925}{100} = 59,25^\circ \begin{cases} 59^\circ = 1 \\ 60^\circ = 1 \end{cases} \quad \frac{1+1}{2} = 1$

Logo $Q_3 = 1$

1.17 $P_{10} = P_{10}$

$(P_{10})^\circ = \frac{1.4}{100} \cdot \frac{10.79}{100} = \frac{790}{100} = 7,9^\circ \begin{cases} 7^\circ = 0 \\ 8^\circ = 0 \end{cases} \quad \frac{0+0}{2} = 0$

Logo $P_{10} = 0$

1.18 $D_6 = P_{60}$

$(P_{60})^\circ = \frac{1.4}{100} \cdot \frac{60.79}{100} = \frac{4740}{100} = 47,40^\circ \begin{cases} 47^\circ = 1 \\ 48^\circ = 1 \end{cases} \quad \frac{1+1}{2} = 1$

Logo $D_6 = 1$

1.19 $P_{90} = P_{90}$

$(P_{90})^{\circ} = \frac{90.79}{100} \cdot \frac{7110}{100} = 71,10^{\circ}$ $\begin{cases} 71^{\circ} = 2 \\ 72^{\circ} = 3 \end{cases}$ $\frac{2+3}{2} = 2,5$

Logo $\underline{P_{90} = 2,5}$

1.20 $K_4 = P_{80}$

$(P_{80})^{\circ} = \frac{i.4}{100} \cdot \frac{80.79}{100} = \frac{6320}{100} = 63,20^{\circ}$ $\begin{cases} 63^{\circ} = 2 \\ 64^{\circ} = 2 \end{cases}$ $\frac{2+2}{2} = 2$

Logo $\underline{K_4 = 2}$

1.21 $Q_1 = P_{25}$

$K_4 = P_{80}$ $\quad 80-25 = 55\%$

1.22 $P_{10} = P_{10}$

$Q_3 = P_{75}$ $\quad 75-10 = 65\%$ $\quad \frac{65}{100} \cdot 79 = \frac{5135}{100} = 51,35$

Logo o número aproximado de caixas entre o P_{10} e o Q_3 é $\underline{51 \text{ CAIXAS}}$