<u>La Médiane :</u>

$$Me = x_0 + d \frac{TH_2 - n\,m_{Me-1}^{\nearrow}}{n\,m_{Me}} \qquad TH_2 = \frac{N}{2} = 50$$

$\Rightarrow d\,Me\,[100 - 120[$

$$Me = 100 + 20\;\frac{50 - 34}{30} \qquad Me = 110,66$$

circled ② , circled 0,5

5- Calcul de Q_1 et $C_{50} = Me$

$$Q_1 = x_0 + d\;\frac{TH_1 - n_{Q_1-1}}{n_{Q_1}} \qquad TH_1 = \frac{N}{4} = 25$$

$\Rightarrow d\,Q_1 : [80 - 10\alpha$

$$\Rightarrow Q_1 = 80 + 20\;\frac{25 - 18}{16}$$

$$\boxed{Q_1 = 88,75}$$

circled ②

6- Calcul de la Variance par changement de variable

$$x'_i = \frac{x_a - x_0}{a} \qquad x_0 = 110 \text{ et } a = 20$$

exemple : $x'_1 = \frac{50 - 110}{20} = \frac{-60}{20} = -3$

circled ③

$$\overline{x}' = \frac{\Sigma x'_i\,n_i}{N} = \frac{3}{100} = 0,03$$

$$V(x)' = \frac{\Sigma x'^2_i\,n_i}{N} - (\overline{x}')^2 = \frac{245}{100} - (0,03)^2$$

$$V(x)' = 2,44$$

$$V(x) = V(x') \cdot a^2 = 2,44 \cdot (20)^2 = 976$$

7) l'indice de Gini

$$I_G = 1 - \Sigma\Big[f_i\,(F'_i + F'_{i-1})\Big]$$

circled ③

$$I_G = 1 - 0,8425 = 0,1575$$

$\Rightarrow$ faible concentration

$F'_i + F'_{i-1}$	$f_i\,(F'_i + F'_{i-1})$
0,04	0,0032
0,14	0,014
0,33	0,0528
0,76	0,228
1,16	0,1044
1,63	0,4401
1	0,8425