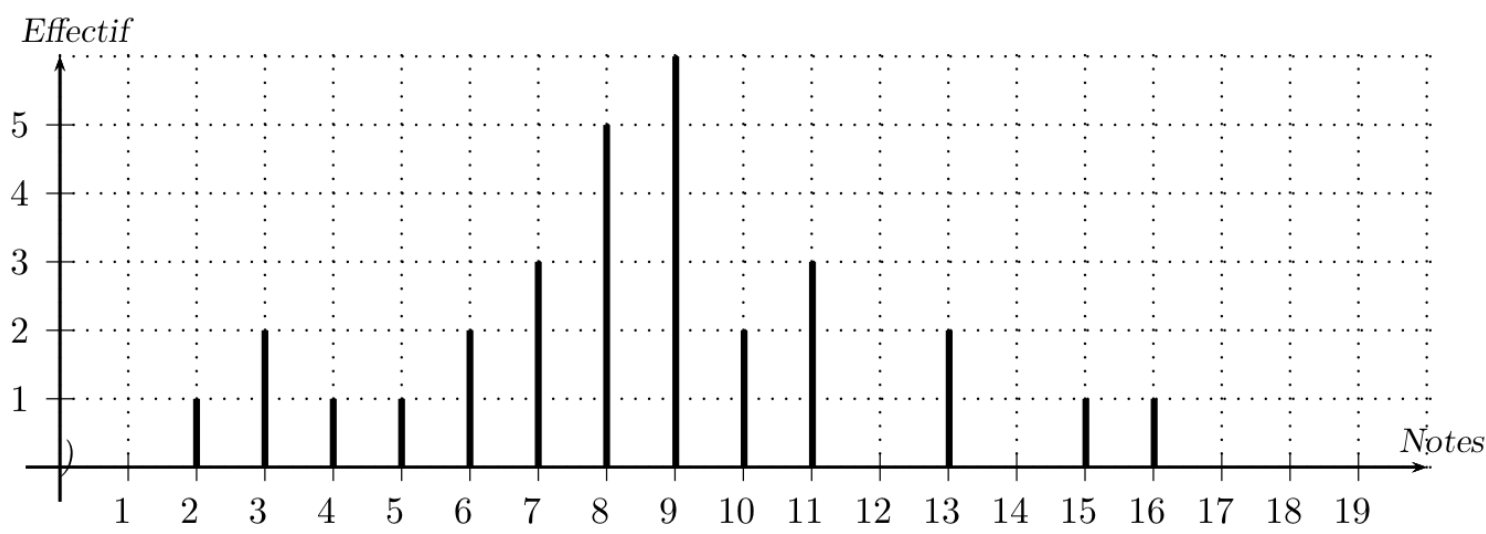


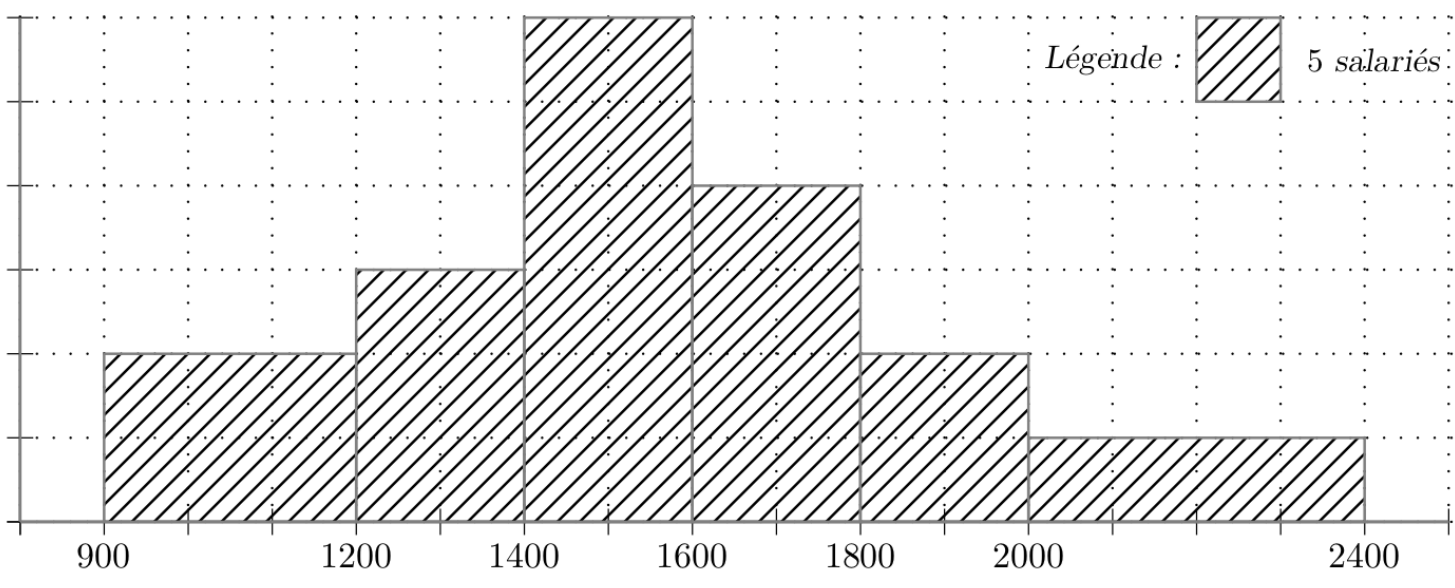
Exercice 1

1)

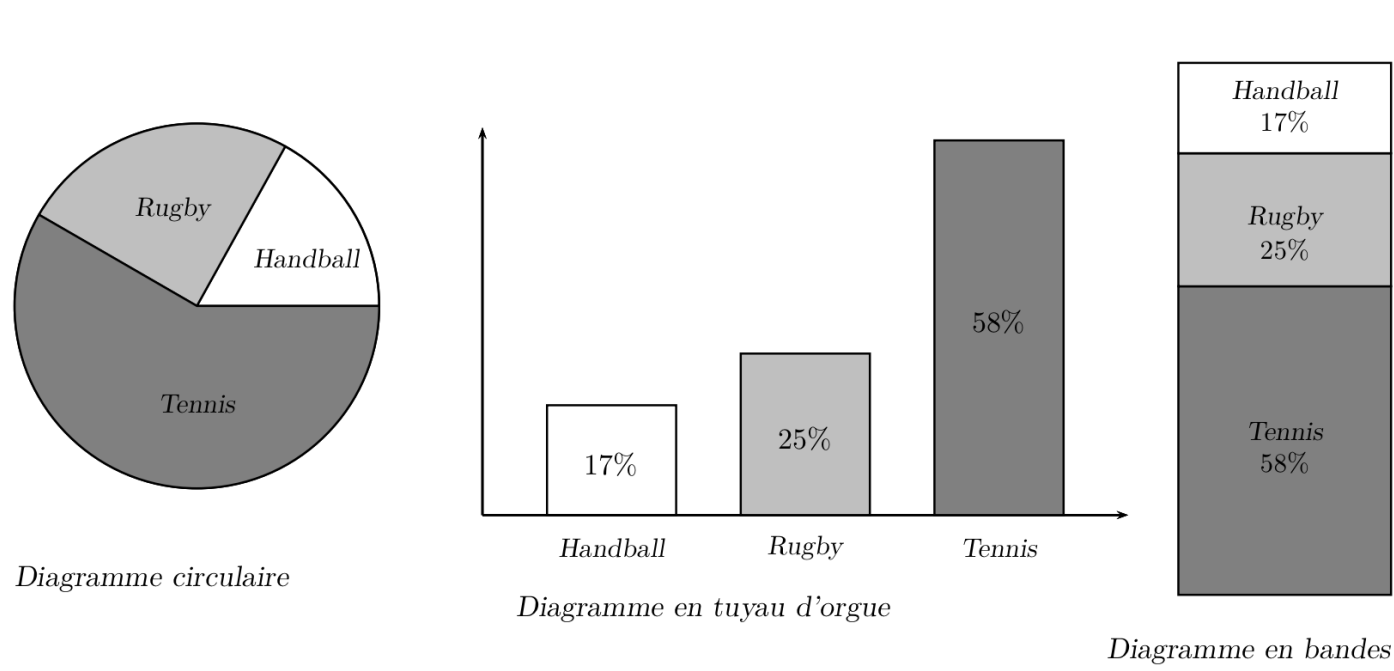
| Notes    | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 13 | 15 | 16 |
|----------|---|---|---|---|---|---|---|---|----|----|----|----|----|
| Effectif | 1 | 2 | 1 | 1 | 2 | 3 | 5 | 6 | 2  | 3  | 2  | 1  | 1  |



2)



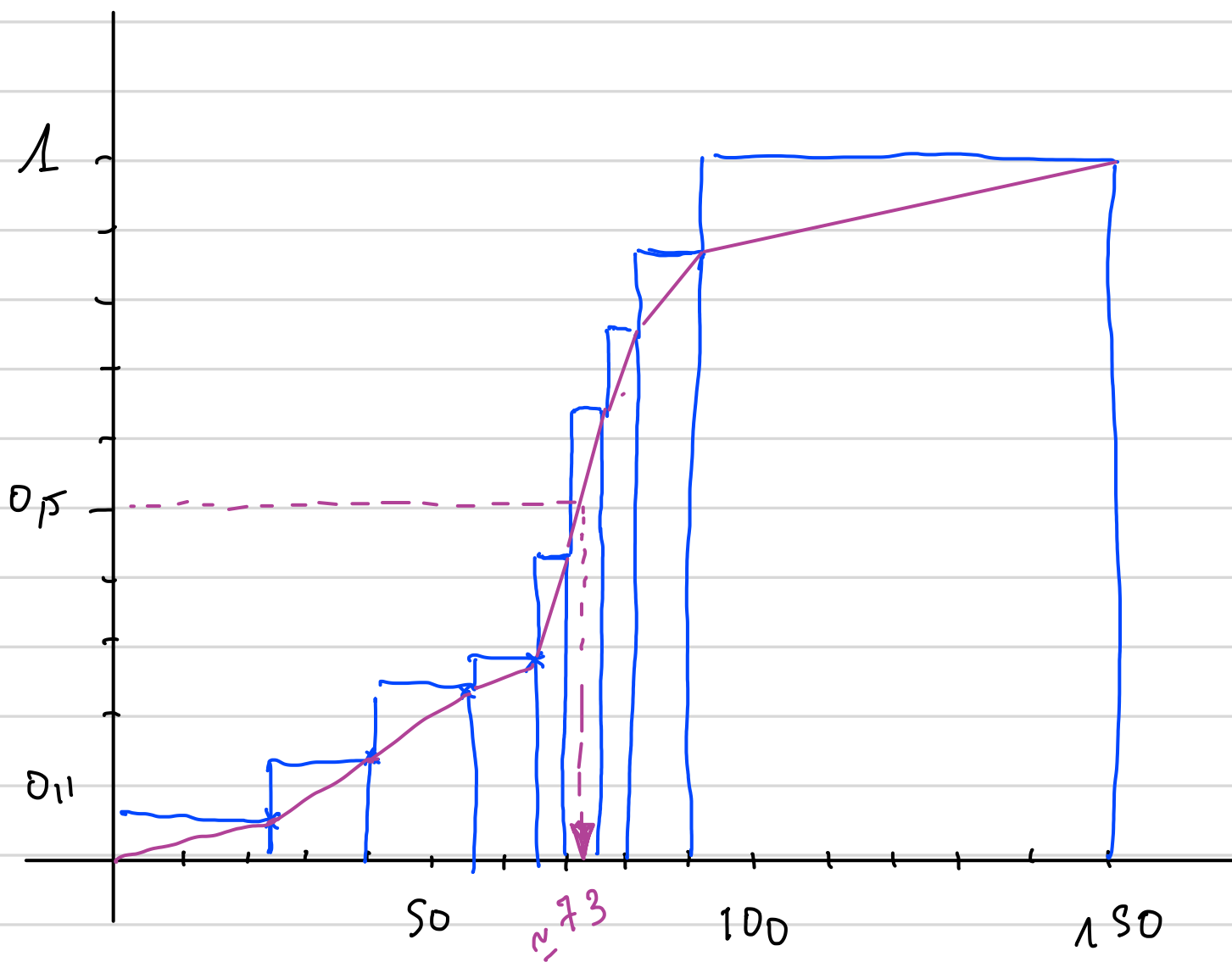
3)



# Exercice 5

| Classe de $x$<br>(en cm) | Éffectif<br>( $n_i$ ) | Frequence<br>( $f_i$ ) | Amplitude<br>( $a_i$ ) | Hauteurs<br>$h_i$ | $f_{CC}$ |
|--------------------------|-----------------------|------------------------|------------------------|-------------------|----------|
| [0, 25]                  | 4                     | 0,05                   | 25                     | 0,16              | 0,05     |
| [25, 40]                 | 7                     | 0,08                   | 15                     | 0,47              | 0,13     |
| [40, 55]                 | 10                    | 0,12                   | 15                     | 0,67              | 0,25     |
| [55, 65]                 | 3                     | 0,04                   | 10                     | 0,30              | 0,29     |
| [65, 70]                 | 12                    | 0,14                   | 5                      | 2,4               | 0,43     |
| [70, 75]                 | 17                    | 0,20                   | 5                      | 3,4               | 0,63     |
| [75, 80]                 | 11                    | 0,13                   | 5                      | 2,2               | 0,76     |
| [80, 90]                 | 9                     | 0,11                   | 10                     | 0,9               | 0,87     |
| [90, 150]                | 11                    | 0,13                   | 60                     | 0,18              | 1        |
|                          |                       |                        |                        |                   |          |

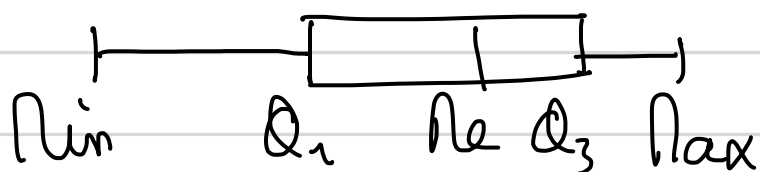
$$h_i = \frac{n_i}{a_i}$$



3) Graphiquement

Mediane  $\leq 73$

### Exercice 6



1) Faux

2) Vrai

3) Vrai

4) Faux

### Exercice 8

|    |       |   |   |   |   |   |   |    |    |    |
|----|-------|---|---|---|---|---|---|----|----|----|
| 1) | $x_i$ | 2 | 3 | 4 | 5 | 7 | 9 | 10 | 11 | 13 |
|    | $n_i$ | 1 | 4 | 1 | 1 | 1 | 1 | 1  | 2  | 1  |
|    | ECC   | 1 | 5 | 6 | 7 | 8 | 9 | 10 | 12 | 13 |

Mode = 3

Mediane: 7<sup>ème</sup> note = 5

Moyenne = 6,46

2) Mode = 7

Mediane:  $\frac{6^{\text{ème}} \text{ valeur} + 7^{\text{ème}} \text{ valeur}}{2}$

= 7,5

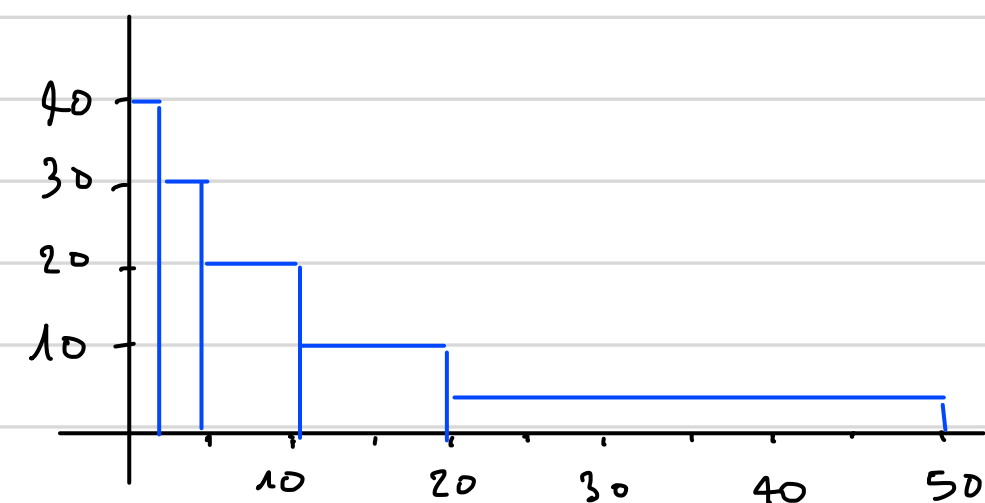
Moyenne = 8,58

# Exercice 9

1°

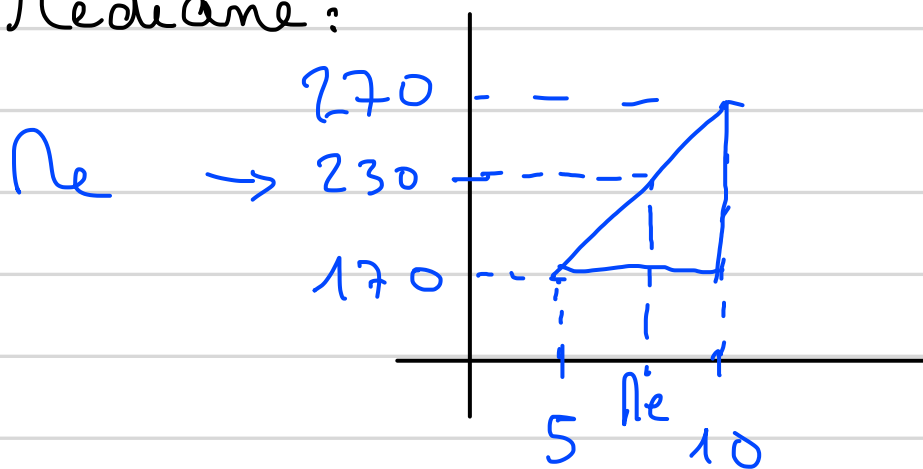
|            | $L_1$ | $L_2$ | $L_3$ ← Amplitude | $L_4$ ← Hauteur = $\frac{n_i}{a_i}$ | ECC |
|------------|-------|-------|-------------------|-------------------------------------|-----|
| $[0; 2[$   | 1     | 80    | 2                 | 40                                  | 80  |
| $[2; 5[$   | 3,5   | 90    | 3                 | 30                                  | 170 |
| $[5; 10[$  | 7,5   | 100   | 5                 | 20                                  | 270 |
| $[10; 20[$ | 15    | 100   | 10                | 10                                  | 370 |
| $[20; 50[$ | 35    | 90    | 30                | 3                                   | 460 |

← On franchit 50% des effectifs



2° Intervalle Médian:  $[5; 10[$

Médiane:



Thalès:

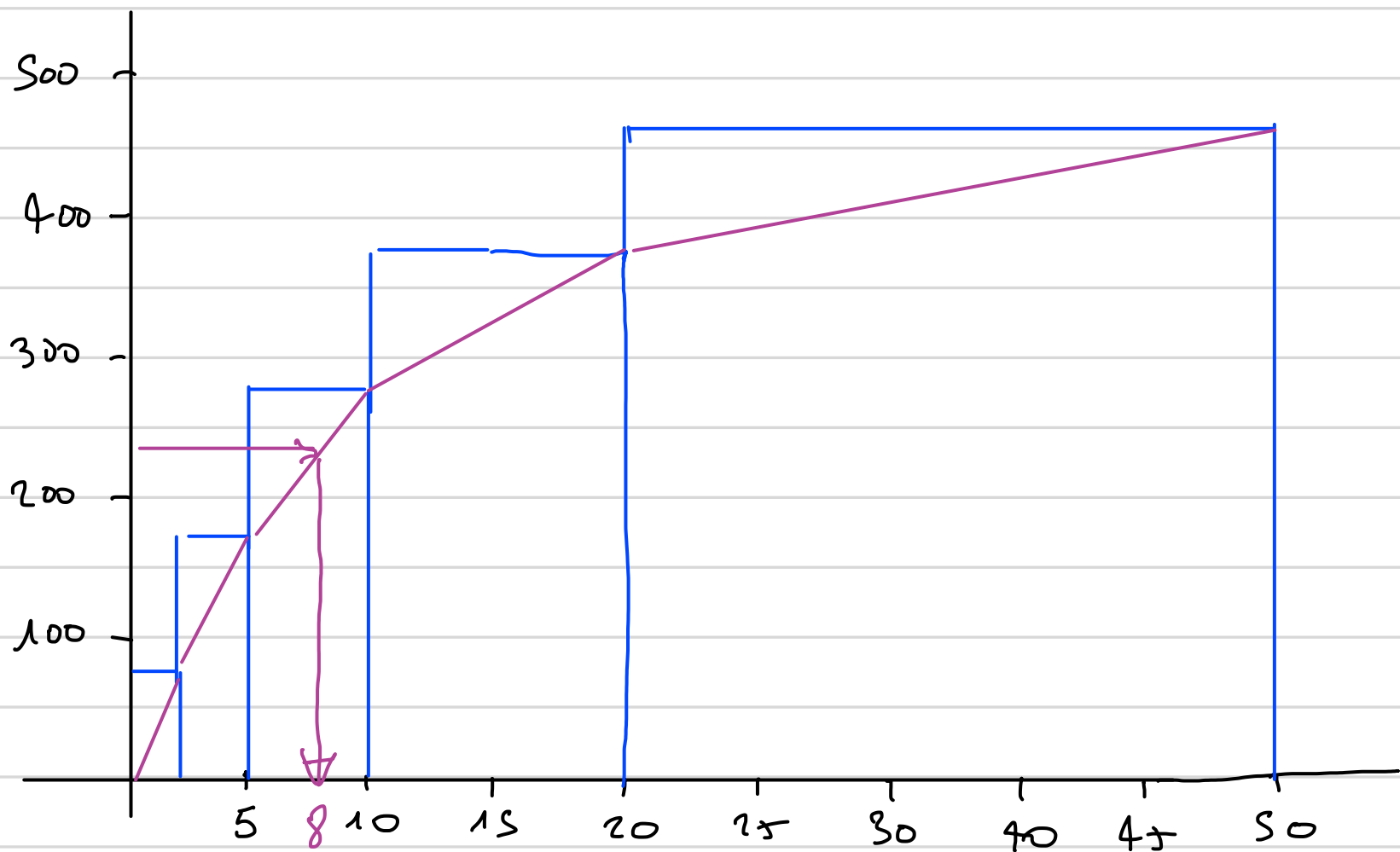
$$\frac{230 - 170}{270 - 170} = \frac{Ne - 5}{10 - 5}$$

$$\frac{60}{100} = \frac{Ne - 5}{5}$$

$$3 + 5 = Ne$$

$$8 = Ne$$

3°



### Exercice 11

$$\bar{k} = (1,169 \times 1,055 \times 1,041 \times 1,097 \times 1,062)^{1/5} - 1$$

$$\approx 0,084 = 8,4\%$$

### Exercice 14

$$\bar{x} = 5,65$$

$$\sigma_x = 3,33$$

### Exercice 16

1. a. Voir calculatrice

b.  $\bar{x} = 50,10$

$$\sigma = 0,25$$

2. a.  $[\bar{x} - 2\sigma; \bar{x} + 2\sigma] = [49,60; 50,60]$

b. On trouve 960 pièces dans cet intervalle  
soit 96% donc oui, la machine est  
bien réglée.

Exercice 17