

feuille 2 exo 1

$$\begin{cases} E(X) = 171,5 = m \\ \sigma_X = 5 \end{cases}$$

~~Normal distribution~~

X taille : variable aléatoire

Prob

$$\text{Prob}(X < t_m) = \frac{379}{500}$$

$t_m$  taille minimale

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$$\text{Prob}\left(\frac{X - m}{\sigma} < \frac{t_m - m}{\sigma}\right) = \frac{379}{500} = \frac{758}{1000} = 0,758$$

$$\text{Prob}(N(0,1) < \frac{t_m - 171,5}{5}) = 0,758$$

$$\text{Prob}(N(0,1) < 0,7) = 0,758$$

$$\left. \begin{array}{l} \text{Prob}(N(0,1) < \frac{t_m - 171,5}{5}) = 0,758 \\ \text{Prob}(N(0,1) < 0,7) = 0,758 \end{array} \right\} \frac{t_m - 171,5}{5} = 0,7$$

$$t_m = 171,5 + 3,5$$

$$t_m = 175$$