TD 6

Exo 34

$X \sim \mathcal{N}\left(\mu, \frac{\sigma^2}{50}\right)$

1

$\hat{\mu} = x$

2

$\frac{D-\mu}{\frac{\sigma}{\sqrt{n}}} \sim \mathcal{N}(0,1)$

$\mathbb{P}\left(-t_{0.95} \leq \frac{D-\mu}{\frac{\sigma}{\sqrt{50}}} \leq t_{0.95}\right) = 0.95$

$\mathbb{P}\left(-1.96 \leq \frac{D-\mu}{\frac{\sigma}{\sqrt{50}}} \leq 1.96\right) = 0.95$ (D'après le cours)

Après calculs:

$\mathbb{P}(9.94 \leq \mu \leq 10.04)$