

Loi exponentielle de paramètre λ ($\lambda > 0$)

• $X \sim \mathcal{E}(\lambda)$ si X a pour densité la

$$f_{\text{fonction}} f_x: x \rightarrow \begin{cases} \lambda e^{-\lambda x} & \text{si } x \geq 0 \\ 0 & \text{si } x < 0 \end{cases}$$

$$\left(f_x(x) = \lambda e^{-\lambda x} \mathbb{1}_{[0, +\infty[}(x) \right)$$

$$\bullet E(X) = \frac{1}{\lambda} \quad \text{Var } X = \sigma_x^2 = \frac{1}{\lambda^2} \Rightarrow \sigma_x = \frac{1}{\lambda}$$

$$\bullet \text{fonction } F_x: x \rightarrow \begin{cases} 0 & \text{si } x < 0 \\ 1 - e^{-\lambda x} & \text{si } x \geq 0 \end{cases}$$

$$\mathbb{R}_+ \quad F_x'(x) = \begin{cases} 0 & \text{si } x < 0 \\ \lambda e^{-\lambda x} & \text{si } x \geq 0 \end{cases} = f_x(x)$$