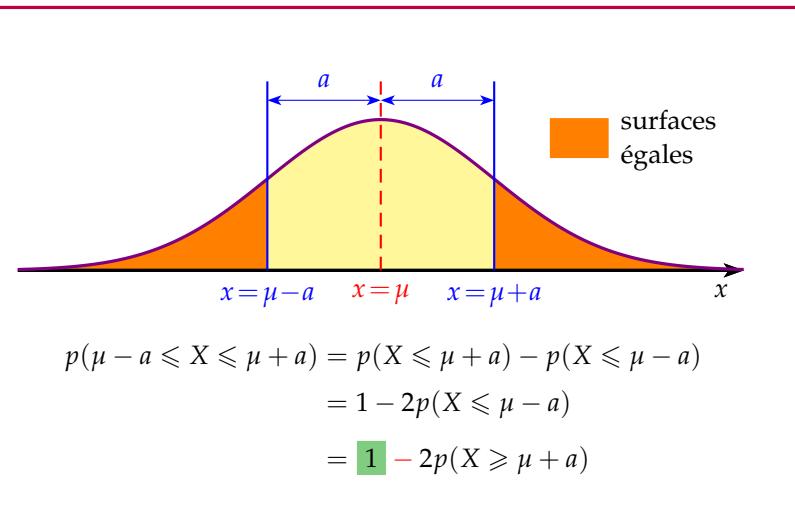
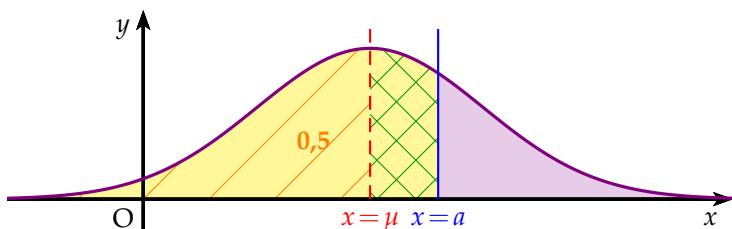


$$\begin{aligned}
 p(a \leq X \leq b) &= p(a < X < b) \\
 &= p(X \leq b) - p(X \leq a) \\
 &= \underbrace{\frac{1}{\text{aire totale}}}_{\text{sauf}} \underbrace{-}_{\text{p(X \leq a)}} p(X \leq a) - p(X \geq b)
 \end{aligned}$$

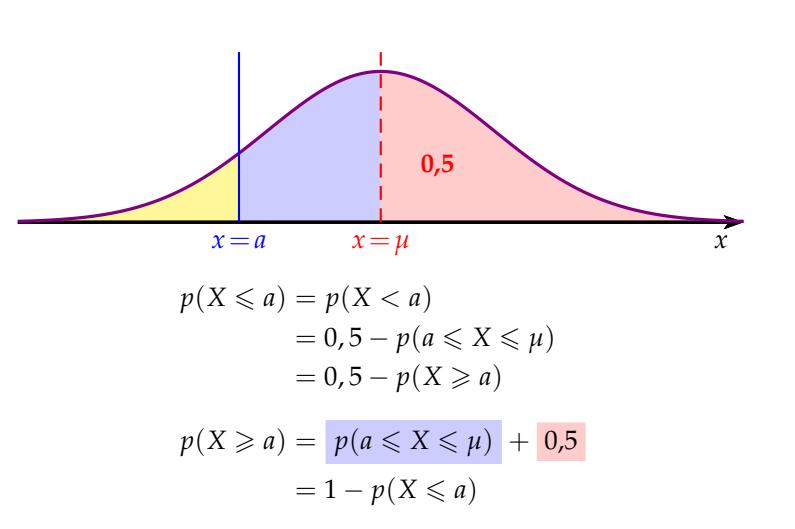
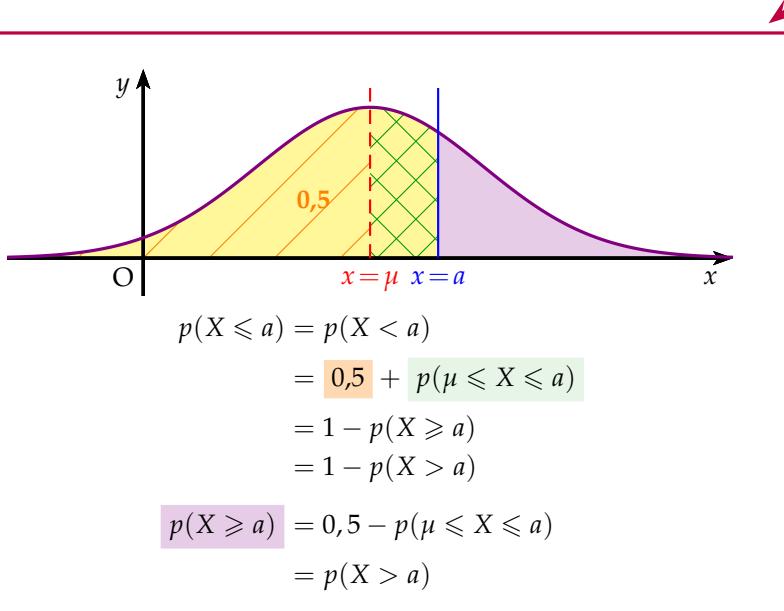


$$\begin{aligned}
 p(\mu - a \leq X \leq \mu + a) &= p(X \leq \mu + a) - p(X \leq \mu - a) \\
 &= 1 - 2p(X \leq \mu - a) \\
 &= \underbrace{1}_{\text{sauf}} - 2p(X \geq \mu + a)
 \end{aligned}$$

Propriétés de la loi normale $\mathcal{N}(\mu, \sigma^2)$



$$\begin{aligned}
 p(X \leq a) &= p(X < a) \\
 &= 0,5 + p(\mu \leq X \leq a) \\
 &= 1 - p(X \geq a) \\
 &= 1 - p(X > a) \\
 p(X \geq a) &= 0,5 - p(\mu \leq X \leq a) \\
 &= p(X > a)
 \end{aligned}$$



$$\begin{aligned}
 p(X \leq a) &= p(X < a) \\
 &= 0,5 - p(a \leq X \leq \mu) \\
 &= 0,5 - p(X \geq a)
 \end{aligned}$$

$$\begin{aligned}
 p(X \geq a) &= p(a \leq X \leq \mu) + 0,5 \\
 &= 1 - p(X \leq a)
 \end{aligned}$$