BINOMIALE

$$P(x) = \binom{n}{x} \pi^{x} (1-\pi)^{n-x}$$

$$F(x^*) = \sum_{x=0}^{x^*} \binom{n}{x} \pi^{x} (1-\pi)^{n-x}$$

$$P(x_1 < X \leq x_2) = F(x_2) - F(x_1)$$

$$P(x_1 \leq X \leq x_2) = F(X_2) - F(X_1 - 1)$$

$$P(X = x_2) = F(X_2) - F(X_2 - 1)$$

$$P(X < x_2) = P(X \leq X_2 - 1) = F(X_2 - 1)$$

POISSON

$$P(x) = \frac{\lambda^x}{x!} e^{-\lambda}$$

$$F(x^*) = \sum_{x=0}^{x^*} \frac{\lambda^x}{x!} e^{-\lambda}$$

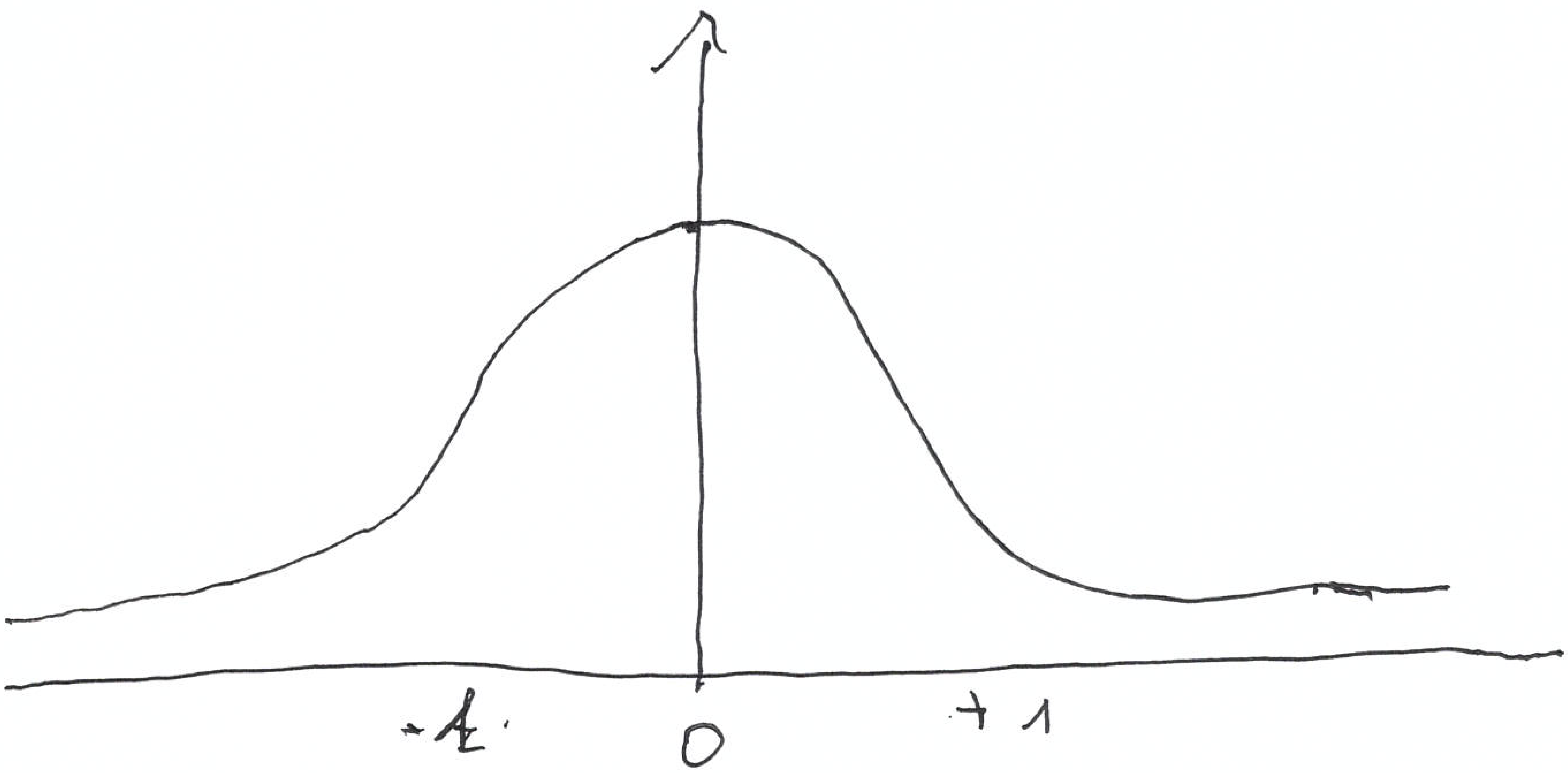
$$E(x) = Var(x) = \lambda$$

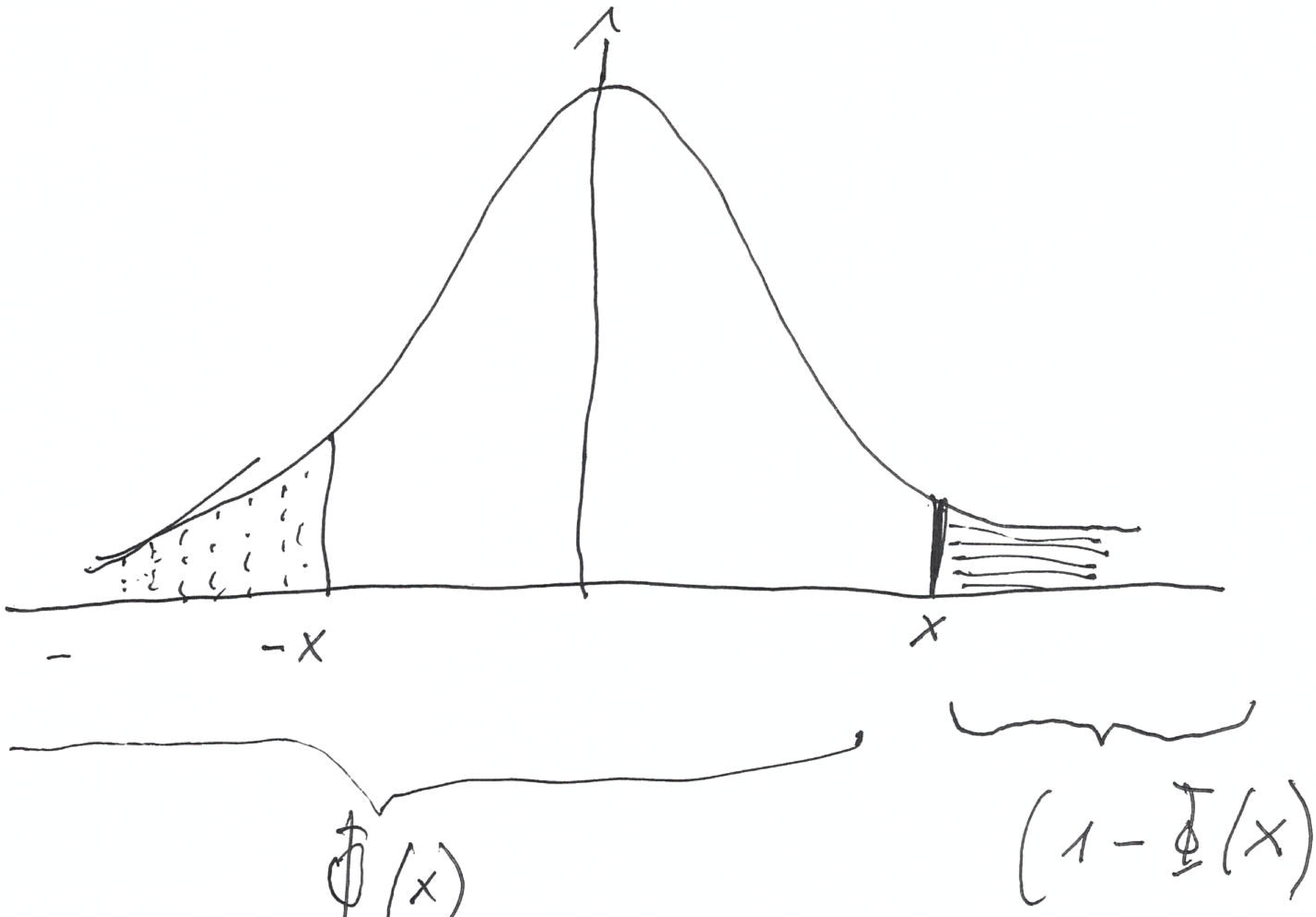
PROPRIETÀ GAMMA

ESEMPIO

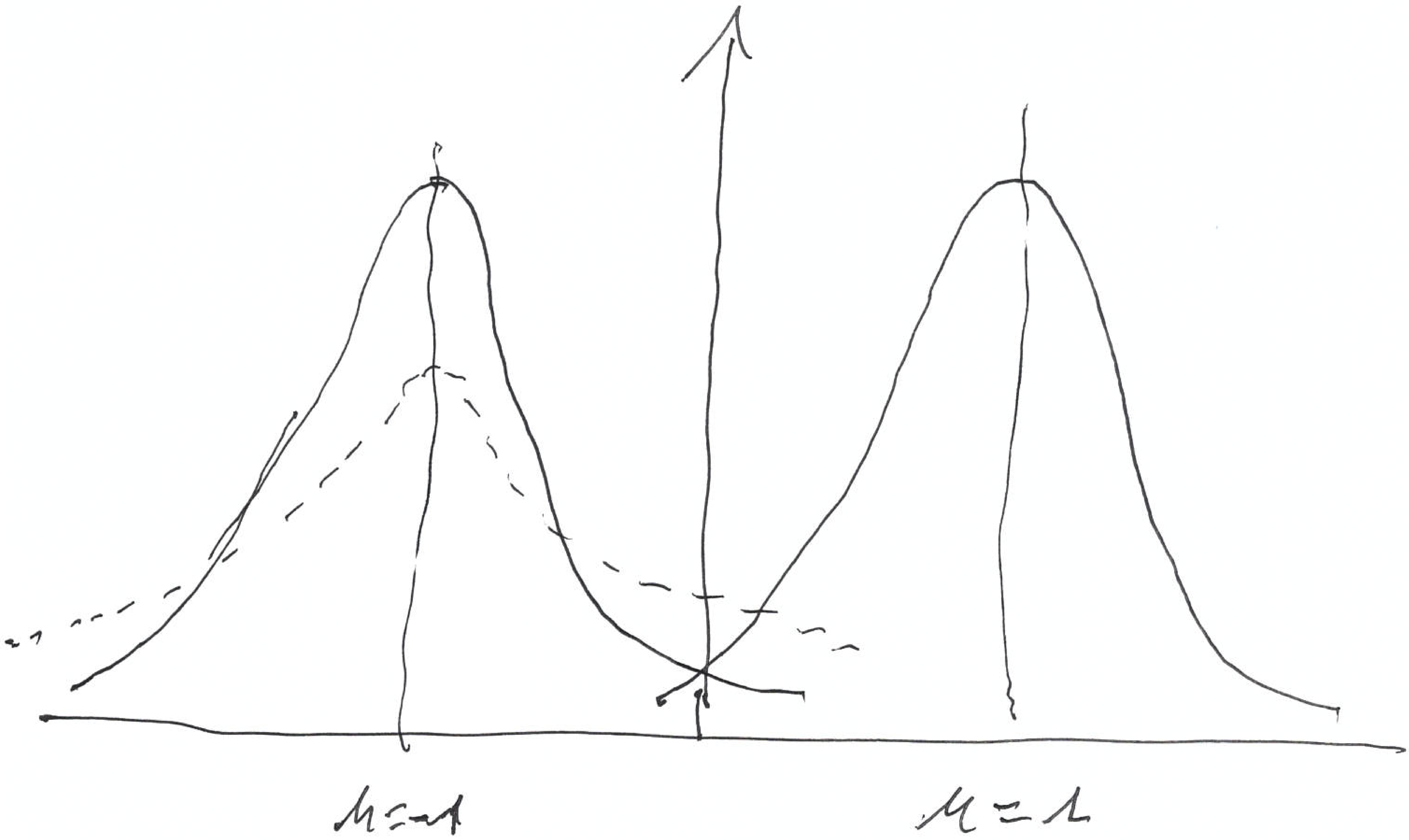
$$\Gamma\left(\frac{3}{2}\right) = \frac{1}{2}\,\Gamma\left(\frac{1}{2}\right) = \sqrt{\pi}\cdot\frac{1}{2}$$

NORMALE STANDARD





$$\Phi(-x) = 1 - \Phi(x)$$



$\mu = -1$
$\mu = 1$

VARIANZA NORMALE

$$Var(X) = E(X-\mu)^2 =$$

$$= E(\mu + \sigma Z - \mu)^2 = E(\sigma^2 Z^2) =$$

$$= \sigma^2 E(Z^2) = \sigma^2 Var(Z) = \sigma^2$$