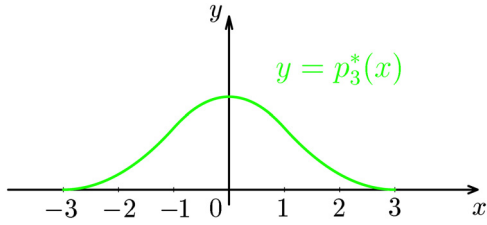


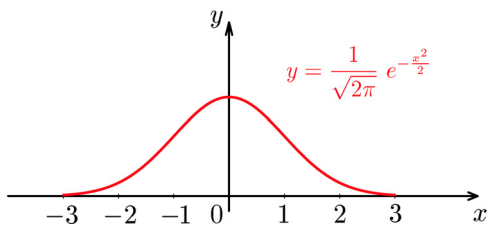
< 一様分布の独立和の標準化 4 >

$X_1, X_2, X_3, X_4 : [0, 1]$ 上に一様分布する独立確率変数 (*independent random variable distributed uniformly in $[0, 1]$*)

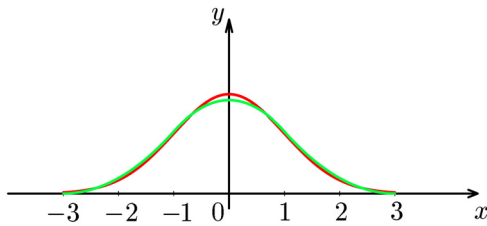


$$E[X_1 + X_2 + X_3] = \frac{3}{2}, \quad V[X_1 + X_2 + X_3] = \frac{1}{4}$$

$$P\left(\frac{X_1 + X_2 + X_3 - \frac{3}{2}}{\frac{1}{2}} \in A\right) = \int_A p_3^*(x) dx$$

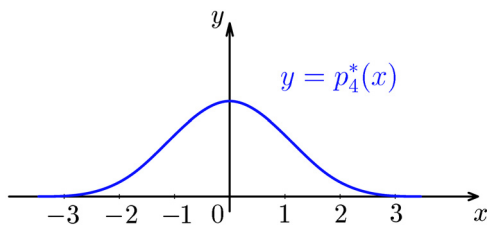


標準正規分布 (*normal distribution*) $N(0, 1)$



赤 : 標準正規分布 $N(0, 1)$
(*red*) (*normal distribution*)

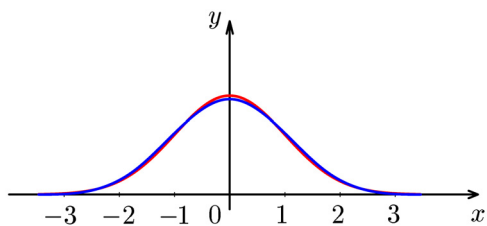
緑 : $y = p_3^*(x)$
(*green*)



$$E[X_1 + X_2 + X_3 + X_4] = 2$$

$$V[X_1 + X_2 + X_3 + X_4] = \frac{1}{3}$$

$$P\left(\frac{X_1 + X_2 + X_3 + X_4 - 2}{\sqrt{\frac{1}{3}}} \in A\right) = \int_A p_4^*(x) dx$$



赤 : 標準正規分布 $N(0, 1)$
(*red*) (*normal distribution*)

青 : $y = p_4^*(x)$
(*blue*)