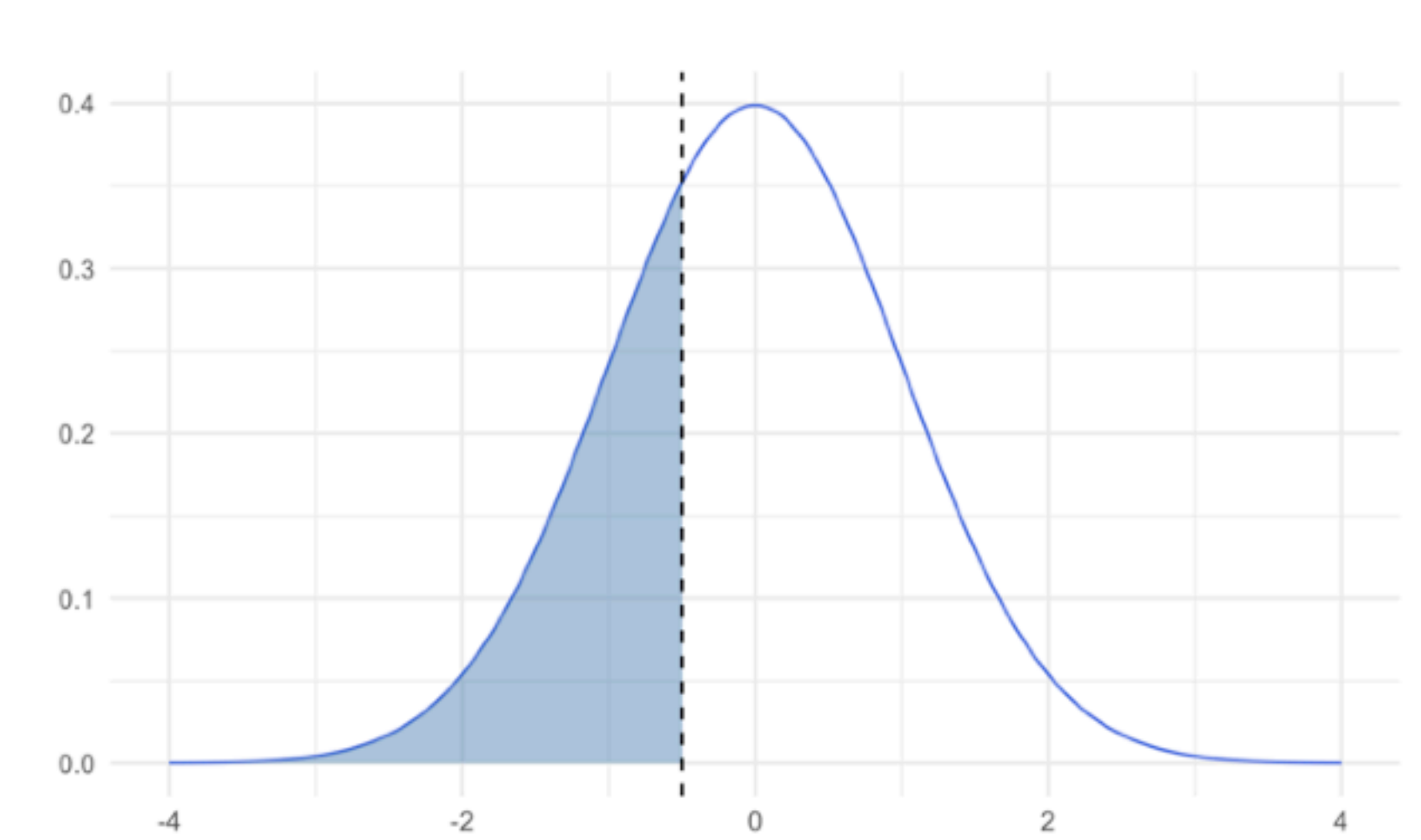
some continuous random variables and their pdfs

standard normal distribution $Z \sim N(0,1)$


0.4
0.3
0.2
0.1
0.0
-4
-2
0
2
4

some continuous random variables and their pdfs

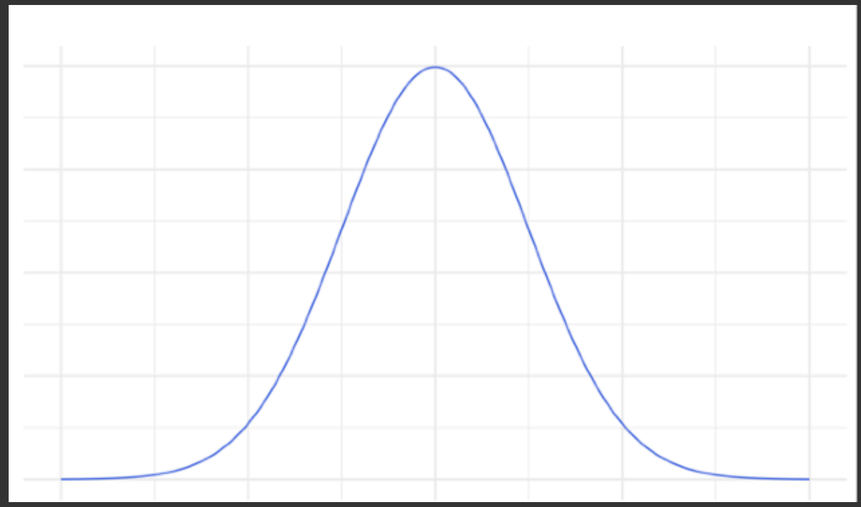
standard normal distribution $Z \sim N(0,1)$

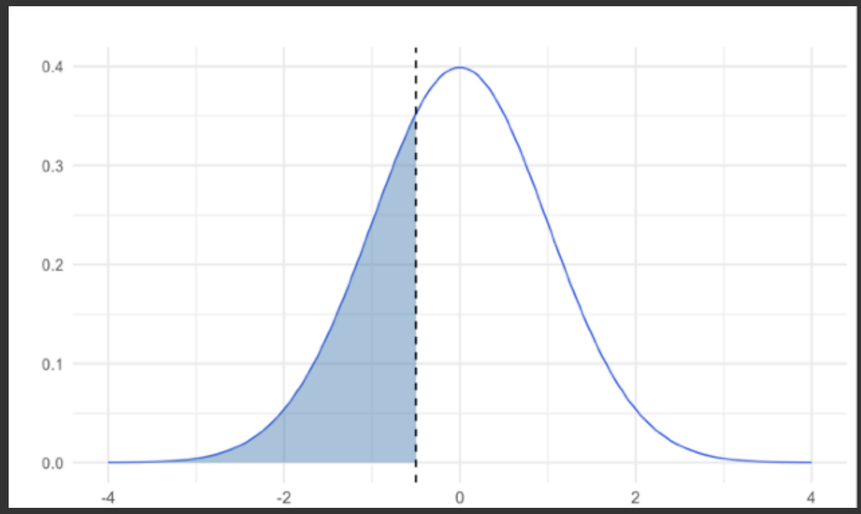
The normal distribution with parameters $\mu = 0$ and $\sigma = 1$ is the standard normal distribution and a random variable with that distribution is a standard normal random variable, usually named Z and with the following probability density function.

$$f(z) = \frac{1}{\sqrt{2\pi}} e^{-\frac{z^2}{2}}$$

The corresponding cumulative distribution function is written $\Phi(z)$

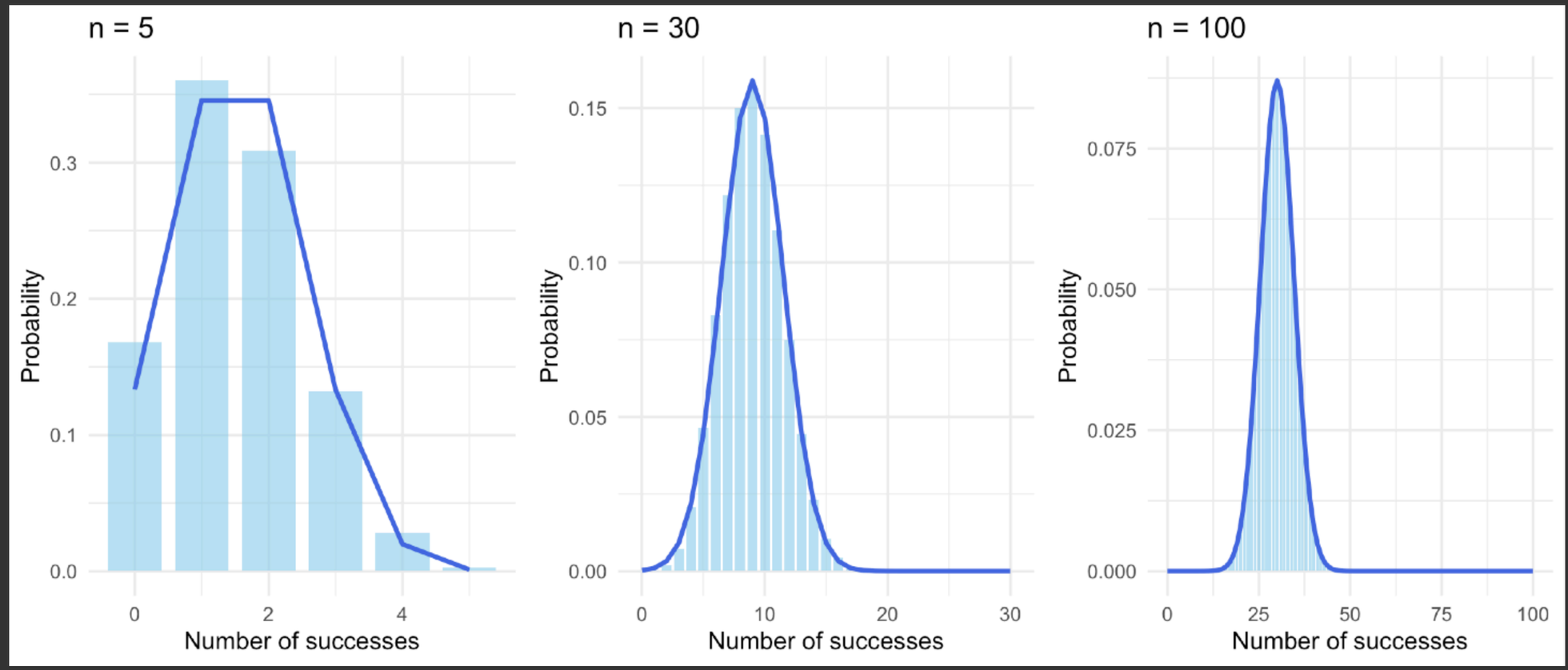
$$\Phi(z) = \frac{1}{\sqrt{2\pi}} \int_{-\infty}^{z} e^{-\frac{x^2}{2}}\, dx$$





some continuous random variables and their pdfs

the importance of normal distribution…



$np \geq 10$