

Using Table of Φ : The standard Normal pdf ϕ is **symmetric about 0**, so $\phi(-z) = \phi(z)$. For cdf Φ , this means $\Phi(z) = 1 - \Phi(-z)$. If $Z \sim N(0, 1)$, **$P(Z > z) = 1 - \Phi(z) = \Phi(-z)$** .

Lognormal Distribution: Suppose $X \sim N(\mu, \sigma^2)$, and consider the transformation $Y = e^X$. It can be shown that the random variable Y has density $f_Y(y) = \frac{1}{\sigma y \sqrt{2\pi}} \exp\left[-\frac{(\log(y) - \mu)^2}{2\sigma^2}\right], y > 0$. Y is said to follow a lognormal distribution.