

Normal Distribution Probability & TI

Before using your calculator:

1. Draw your bell-shaped symmetric curve.
2. Clearly label and shade.

When you have	Use
$P(a < x < b)$	$\text{normalcdf}(a, b, \mu, \sigma)$
$P(x < a)$	$\text{normalcdf}(-E10, a, \mu, \sigma)$
$P(x > a)$	$\text{normalcdf}(a, E10, \mu, \sigma)$

When you have	Use
$P(a < \bar{x} < b)$	$\text{normalcdf}(a, b, \mu, \sigma \div \sqrt{n})$
$P(\bar{x} < a)$	$\text{normalcdf}(-E10, a, \mu, \sigma \div \sqrt{n})$
$P(\bar{x} > a)$	$\text{normalcdf}(a, E10, \mu, \sigma \div \sqrt{n})$

Given $0 < k < 1$

When you have	Use
$P(x < a) = k$	$x = \text{invNorm}(k, \mu, \sigma)$
$P(x > a) = k$	$x = \text{invNorm}(1 - k, \mu, \sigma)$