

Command	Explanation	Notes
<code>pnorm(x)</code>	$\Pr(Z \leq x)$	many options many options
<code>pt(x,n-1)</code>	$\Pr(T_{n-1} \leq x)$	
<code>pchisq(x,n-1)</code>	$\Pr(\chi_{n-1}^2 \leq x)$	
<code>pf(x,v1,v2)</code>	$\Pr(F_{v1,v2} \leq x)$	
<code>qnorm(p)</code>	gives $x$ satisfying $\Pr(Z \leq x) = p$	
<code>qt(p,n-1)</code>	gives $x$ satisfying $\Pr(T_{n-1} \leq x) = p$	
<code>qchisq(p,n-1)</code>	gives $x$ satisfying $\Pr(\chi_{n-1}^2 \leq x) = p$	
<code>qf(p,v1,v2)</code>	gives $x$ satisfying $\Pr(F_{v1,v2} \leq x) = p$	
<code>t.test()</code>	uh, it performs a $t$ -test	
<code>var.test()</code>	performs a two-sample variance test	

Use  $p$  functions to find  $p$ -values and  $q$  functions to find critical values.

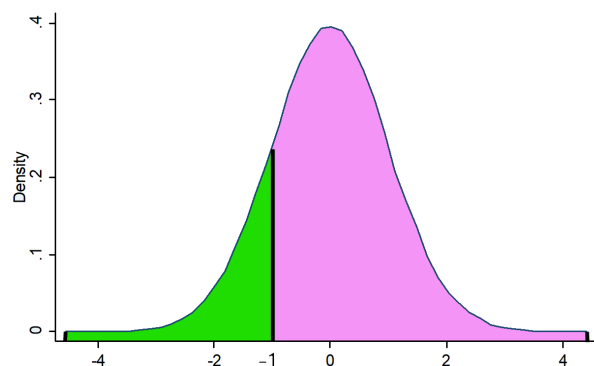


Figure 1: The green area is given by `pnorm(-1)`; whereas the pink area is given by `pnorm(-1,lower.tail=FALSE)`, or alternatively, by `1 - pnorm(-1)`.

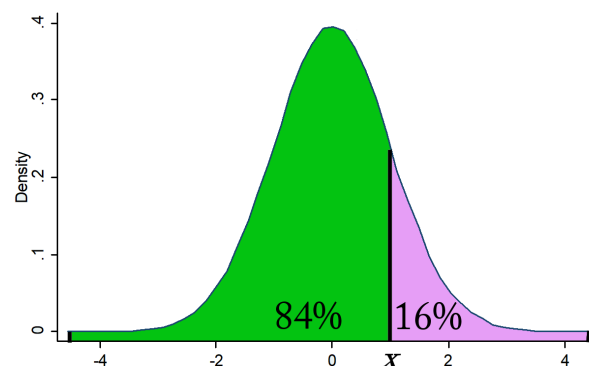


Figure 2: The number  $x$  is such that 84% of the curve lies beneath it; and 16% lies above it. Find it with `qnorm(0.84)` or `qnorm(0.16, lower.tail=FALSE)`.

The command `t.test(x, mu = 3, alternative = "greater", conf.level=.99)` will test  $H_0 : \mu \leq 3$  against  $H_1 : \mu > 3$  at 99% confidence (i.e. 1% significance).

The command `t.test(A, B, var.equal=TRUE)` will test whether the means of group A and group B are equal at 5% significance, assuming the two groups have the same variance.

The command `var.test(A, B, alternative = "greater")` will test whether group A has larger variance than group B at 5% significance.