

| Command                    | Explanation   | Notes |
|----------------------------|---|-------|
| <code>pnorm(x)</code>      | $\Pr(Z \leq x)$                                     |       |
| <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 variance test                            |       |

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

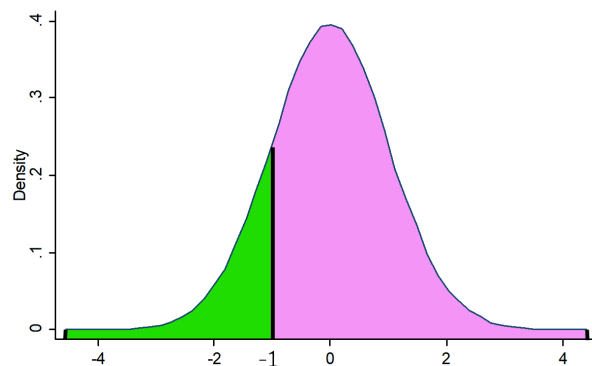


Figure 1: The green area is given by `pnorm(-1)`; whereas the pink area is given by `pnorm(-1,lower.tail=FALSE)`, or alternatively, by `1 - pnorm(-1)`.

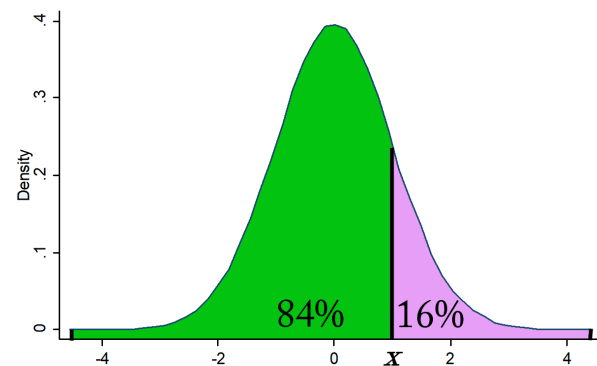


Figure 2: The number  $x$  is such that 84% of the curve lies beneath it; and 16% lies above it. Find it with `qnorm(0.84)` or `qnorm(0.16, lower.tail=TRUE)`.

The command `t.test(A, B, var.equal=TRUE)` will test whether the means of group A and group B are equal, 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.