Command	Explanation
pnorm(x)	$P(Z \leq x)$ for $Z \sim \mathcal{N}(0,1)$
pt($x, n-1$)	$P(T_{n-1} \leq x)$ for $T_{n-1} \sim T(n-1)$
qnorm(p)	gives x such that $P(Z \leq x) = p$ for $Z \sim \mathcal{N}(0,1)$
qt($p, n-1$)	gives x such that $P(T_{n-1} \leq x) = p$ for $T_{n-1} \sim T(n-1)$
pnorm(x, lower.tail = FALSE)	$P(Z \geq x)$ for $Z \sim \mathcal{N}(0,1)$
pt($x, n-1$, lower.tail = FALSE)	$P(T_{n-1} \geq x)$ for $T_{n-1} \sim T(n-1)$
qnorm(p, lower.tail = FALSE)	gives x such that $P(Z \geq x) = p$ for $Z \sim \mathcal{N}(0,1)$
qt($p, n-1$, lower.tail = FALSE)	gives x such that $P(T_{n-1} \geq x) = p$ for $T_{n-1} \sim T(n-1)$
t.test()	performs a t-test

Notice that the `lower.tail = FALSE` option switches around the inequality in the probabilities. Hence it considers the upper tail instead of the lower tail, explaining its name.

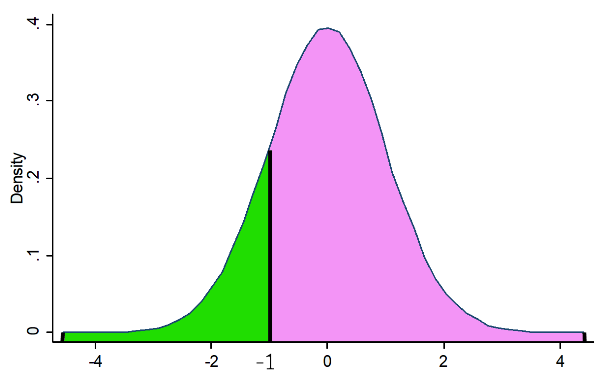

FIGURE 1: The green area is given by `pt(-1, n-1)`, and the pink area is given by `pt(-1, n-1, lower.tail = FALSE)`.

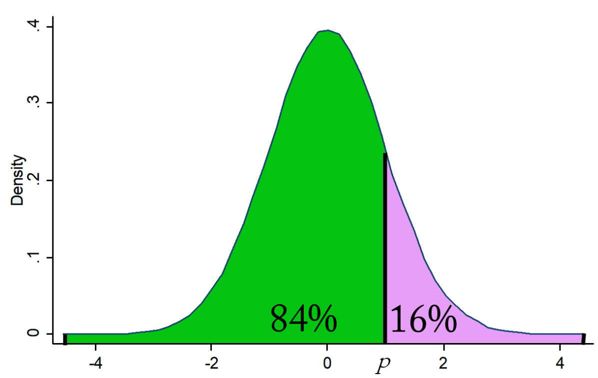

FIGURE 2: The number p is the number such that the probability of being below it is 0.84, and likewise the probability of being above it is 0.16. Apropos R commands, `qt(0.84, n-1)` and `qt(0.16, n-1, lower.tail = FALSE)`.

`t.test(x, alternative = c("greater"), mu = 5, conf.level = 0.95)`
Performs a t-test using data in x for $H_0 : \mu \leq 5$ against $H_1 : \mu > 5$ at 5% significance.