

## R as a Calculator

Command	Meaning	Example
Arithmetic:		
<code>x + y</code>	addition	<code>4 + 3</code>
<code>x - y</code>	subtraction	<code>4 - 3</code>
<code>x * y</code>	multiplication	<code>4 * 3</code>
<code>x / y</code>	division	<code>7 / 3</code>
<code>x ^ y</code>	exponentiation	<code>8 ^ (1/3)</code>
<code>x %/% y</code>	integer division	<code>7 %/% 3</code>
<code>x %% y</code>	modulo (remainder)	<code>7 %% 3</code>
Calculator functions:		
<code>exp()</code>	exponential	<code>exp(1)</code>
<code>log(x, base = exp(1))</code> (“=” indicates default)	logarithm	<code>log(9, base = 3)</code> <code>e = exp(1); log(e^2)</code>
<code>cos()</code> , <code>sin()</code> , <code>tan()</code>	trigonometry	<code>sin(pi/2)</code>
<code>sqrt()</code>	square root	<code>sqrt(9)</code>
Other easy functions:		
<code>abs(x)</code>	absolute value	<code>abs(-3)</code>
<code>floor(x)</code>	greatest int $\leq x$	<code>floor(-1.5)</code>
<code>ceiling(x)</code>	smallest int $\geq x$	<code>ceiling(-1.5)</code>
<code>round(x, digits = 0)</code>	round to #decimal places	<code>round(4/3, 2)</code>
<code>signif(x, digits = 6)</code>	round to #significant	<code>signif(4/3, 2)</code>
Statistics distributions:		
<code>pnorm(q, mean = 0, sd = 1)</code>	$P(X < q)$ for $X \sim N(\text{mean}, \text{sd})$	<code>pnorm(-1, 0, 1)</code>
<code>qnorm(p, mean = 0, sd = 1)</code>	$x$ with $P(X < x) = p$	<code>qnorm(.16, 0, 1)</code>
<code>pt(q, df)</code>	$P(T < q)$ for $T \sim t_{df}$	<code>pt(-2, 100)</code>
<code>qt(p, df)</code>	$t$ where $P(T < t) = p$	<code>qt(.025, 100)</code>
Miscellaneous:		
<code>?name</code>	<code>help("name")</code>	<code>?pt</code>
<code>??topic</code>	<code>help.search("topic")</code>	<code>??deviation</code>
<code>setwd(folder)</code>	set working directory	<code>setwd("C:/Users/jg/Documents/692")</code>
<code>&lt;- (or =)</code>	assign variable	<code>x &lt;- 3 (or x = 3)</code>
<code>variable.name</code>	display variable	<code>x</code>
<code>ls()</code>	list variables	
<code>rm(list = ls())</code>	clear all variables	
<code>list.files()</code>	list all files	
<code>warnings()</code>	display last warnings	
<code>#</code>	comment rest of line	<code>N &lt;- 3 # number of points</code>
<code>demo()</code>	run demo code	<code>demo(graphics), demo(plotmath)</code>
<code>quit()</code>	quit R	
<code>source()</code>	read code from file	<code>source("John.R")</code>
<code>install.packages(name)</code>	install more R code	<code>install.packages("sos")</code>
<code>library(name)</code>	load more R code	<code>library("sos")</code>
<code>???(string)</code>	<code>findFn("string")</code> : search help	<code>???(deviation)</code>