Index of Important Maple Commands

> restart; clears all variables. Virtually equivalent to restarting Maple.

> ?command provides very useful information and examples about Maple commands. The ? command can be used for help for any Maple command and package.

> x:= 'x'; clears the variable x (note that back quotes are not used here)

> f:= formula; assigns a formula to f.

> Digits:= n; sets the number of digits used for floating point numbers to n (the default is 10). (Note the capital D in this command).

> evalf(f); evaluates the expression f using floating point arithmetic. That is, this command will return a value that is a decimal.

> expand(f); expands the expression f using the laws of algebra and trigonometry.

> factor(f); factors the given expression.

> simplify(f); simplifies the expression f. On some expressions it is best to first use the expand command before using simplify.

> subs(x=a,f); substitutes a into the expression f for x. Note that a can be either a numerical value or an algebraic expression. This command does not assign a value to x or change a previously assigned value of x.

> solve(f=a,x); this solves f=a for x. This command produces exact solutions, if available, while fsolve produces numerical answers.

> fsolve(f=a,x); solves the equation f=a for x. The answer is given in decimal form. Usually, fsolve returns a single real root, but for some polynomial and transcendental equations, it will find all real roots.

> fsolve(f=a,x1..x2); this solves f=a on the interval (x1,x2).

> plot(f,x=x1..x2,options); plots the graph of the expression f on the interval [x1,x2]. See the online help for the options that are available with this command.
\[ \text{plot}(f,x=x_1..x_2,y=y_1..y_2); \quad \text{Plots the expression } f \text{ on the interval } [x_1,x_2] \text{ and restricts the range of the y values to the interval } [y_1,y_2]. \]

\[ \text{plot}\{f,g\},x=x_1..x_2; \quad \text{Plots 2 (or more) expressions on the same set of axes.} \]

\[ \text{limit}(f,x=a); \quad \text{Computes the limit of } f \text{ as } x \text{ approaches } a \text{ (x=\text{infinity} is allowed).} \]

\[ \text{diff}(f,x); \quad \text{Computes the derivative of } f \text{ with respect to } x. \]

\[ \text{subs}(x=a,\text{diff}(f,x)); \quad \text{Combining the subs()} \text{ command and diff()} \text{ command to evaluate a derivative.} \]

\[ \text{diff}(f,x^n); \quad \text{Computes the } n \text{th derivative of } f \text{ with respect to } x. \]

\[ \text{Pi}; \quad \text{Proper syntax for the number pi while pi;} \text{ is the syntax for the Greek letter pi.} \]

\[ \text{\texttt{(\texttt{sin(x)})^2;}} \quad \text{Proper syntax for entering } \cdot \text{.} \]

\[ \text{exp(x);} \quad \text{Proper syntax for entering} \]

\[ \%; \quad \text{Shortcut for recalling the previous Maple output.} \]

\[ \text{implicitplot}(f,x=a..b,y=c..d); \quad \text{Plots implicit functions. Must be preceded by with(plots);} \]