MAPLE Syntax

>p:=expression   Defines p to be the expression we type (equation, number, whatever).

>Pi;   Is always treated as the number π = 3.14…...

>pi;   Is treated as the symbol, π.

>%;   Is the previous MAPLE output.

>solve(p=0);   Gives the roots of the polynomial p with numerical coefficients.

>solve(p=0,x);   Gives the roots of the polynomial p with numerical or symbolic coefficients.

Aside: Here you might wonder why MAPLE didn't use the command roots rather than solve. The answer is that the command solve is much more general than we have been using here. The two above commands are special shorthand versions of the command

>solve(p=q,x);   Solves for the values of x which satisfy the equation p=q. If the =q is left off, the command substitutes =0 automatically. (We will use this and the solver package in the TI-86 after we learn how to graph.)

>fsolve(p=q,x);   Computes the floating point approximations.

>expand(p);   Expands the given expression p.

>factor(p);   Factors the polynomial p into its real linear factors times what's left.

>simplify(p);   Simplifies the expression p.

>subs(x=?,p);   Substitutes the value ? in for x in the expression p.

>gcd(p,q);   Computes the "greatest common divisor."

>lcm(p,q);   Computes the "least common multiple."

>igcd(m,n);   Computes the greatest common divisor of the integers m and n.

>ilcm(m,n);   Computes the least common multiple of the integers m and n.

>ifactor(m);   Factors the integer m as a product of powers of primes.

>evalf(n);   Computes a floating point approximate value of the number n.

>convert(r,fraction);   Converts the decimal r to fraction form.

>Digits:=n;   Converts default floating point 10 digits to n digits.

More MAPLE Syntax

>fsolve(p,x,complex);	Computes the floating pt approximation to all roots of p, real or complex.
>convert(r,fraction,exact);	Returns the exact fraction value of the decimal in the machine.
>subs(x=a,p);	Substitutes the value a, symbol or number, into the expression p wherever x occurs.
>plot(f,x=a..b);	Plots the graph of the function f(x) for values of x from a to be.
>plot(f,x=a..b,y=c..d);	Same as above with y range specified.
>plot(f,x=a..b,y=c..d,title='name');	Same as above with name appearing at top of picture.
>plot({f1,f2,..fn},x=a..b);	Plots the graphs of f1,f2,..fn on the same axes.
>plot({seq(f(x,i),i=m..n)},x=a..b);	Plots the graphs of the functions f(x,i) for the integer values of i between the integer m and the integer n on the same axes.
>with(plots):	Invokes the special graphing package.
>implicitplot(f,x=a..b);	Works just like plot(_); except now f is an equation in x and y, not just a function.
>animate(f(x,t),x=a..b,i=c..d);	Plots and displays sequentially the graphs of f(x,i) for 16 values of i between c and d.
>diff(f,x);	Derivative of f wrt x.
>Diff(f,x);	Symbol for above.
>int(f,x);	Indefinite integral of f wrt x.
>Int(f,x);	Symbol for above.
>int(f,x=a..b);	Integral of f from a to b.
>Int(f,x=a..b);	Symbol for above.
>floor(x);	Greatest integer function.