Here is a compilation of syntax that I might need.

Item 1: How to graph a function.
> plot(x^2+1,x=-1..2);

Item 2: How to graph two functions.
> plot([x^2+1,x+1],x=-1..2);

Item 3: How to graph in polar coordinates.
> plot(cos(t),t=0..Pi);

Item 4: How to animate a graph.
> with(plots):
    animate(x^2+a,x=-1..2,a=-1..2);

Item 5: How to define a function.
> f:=x->x^2+1;
f(7);

Item 6: How to take the derivative of a function.
> diff(f(x),x);

Item 7: How to take the derivative and evaluate it at 7.
> D(f)(7);

Item 8: How to integrate a function.
> int(f(x),x=-1..2);

Item 9: How to draw a graph in three dimensions
> plot3d(x^2-y^2,x=-1..2,y=-1..2);

Item 10: How to solve a differential equation.
> dsolve({diff(y(x),x)+3*y(x)=sin(x),y(0)=1},y(x));