## **Chapter 09 - Plotting Curves**

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## Using fplot

A picture is worth 1000 words. Let's learn how to get Matlab to show us some graphs. There are in fact many different ways to plot graphs in Matlab but the easiest way is to use a command called fplot, which you can think of as standing for **function plotter**. It will work on functions as well as parametrized curves which you saw in Calculus 2. Let's start with something simple:

Suppose you want to draw the graph of the function f(x) = sin(x). Try typing the following command:

```
syms x
fplot(sin(x))
```



## **Changing the Window Domain**

Matlab uses the default range of x values [-5, 5]. It often gives quite a good result. If you prefer you can tell it what domain to plot.

```
fplot(sin(x), [0, 20*pi])
```



fplot will also work with a symbolic functon:

syms f(x)
f(x) = sin(1/x);
fplot(f(x),[0,0.1])



Lastly fplot will work with a parametric curve, so for example if you wanted to plot the curve x=t\*sin(t) and y=t\*cos(t) for t between 0 and 10\*pi:

fplot(t\*sin(t),t\*cos(t),[0,10\*pi])



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