Section 8.7: Parametric Equations

Thursday, May 7, 2015 7:18 PM

Goal: To graph a curve defined parametrically.

When we graph a function $y = f(x)$, we plot points, $(x, f(x))$.

In this section, we define both coordinates (x,y) as functions of a third variable, t:

$$x = f(t)$$
$$y = g(t)$$

parametric equations.

t is called the parameter

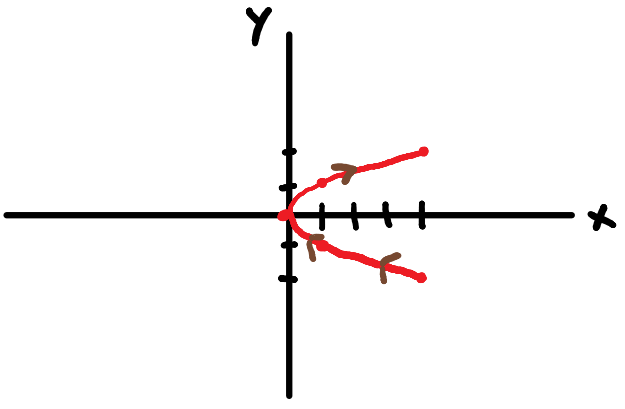
(ex) Plot the graph of the following parametric equations:

$$x = t^2, \quad y = t$$

★ Make a table, plot points, draw a curve through those points.

t	x	y
-2	4	-2
-1	1	-1
0	0	0
1	1	1
2	4	2

plot these



Note: The arrows on the curve indicate the direction a particle would travel along the curve as t increases. This is called the orientation of the curve.

Think of t as time. Then the parametric equations give the position of a particle on the curve at time t.

★ Be able to do this example (or a similar one) on the final!!!