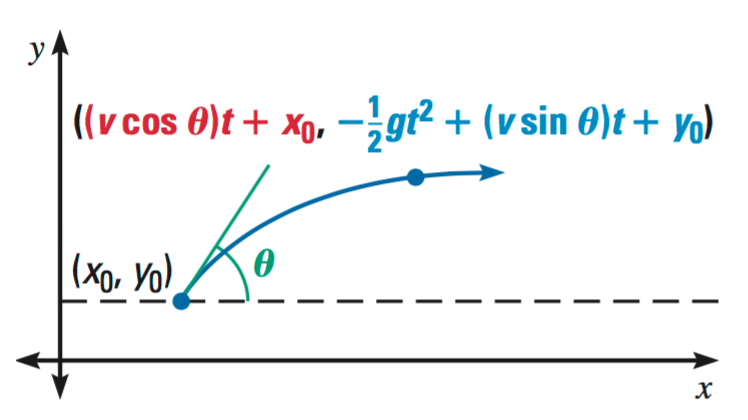
**Math Notes for Lab 12**

We can model the flight of an object with the help of *parametric equations*. The equations let us compute the position of the object as a function of time , as measured in seconds since the launch from at time . (So is the *parameter* used to calculate and .)



Source: <http://www.classzone.com/eservices/home/pdf/teacher/LA213GAD.pdf>

Some other details you need to know:

* is the object's initial position (distance horizontally and vertically from origin).
* is the launch angle in radians. Recall that you can convert from degrees to radians by multiplying the number of degrees by
* is the launch velocity
* is the "acceleration" toward by the earth caused by gravity at sea level: 32 feet/sec2 or 9.8 m/s2.
* Note that this model ignores the effect of air resistance.

To calculate these values, you will need to import functions from Python's math module. For example:

from math import sin, cos, pi

(Remember that all import statements should go at the beginning of your code.)