**Programming in MatLab**A Physics Exercise

Write a MatLab program that computes the trajectory of a cannonball that is fired at a 30 degree angle up from horizontal at a muzzle velocity of 500 feet/second, but use SI units and ignore wind resistance (not a great assumption).  You will need to calculate vectors of cannonball height vs time and horizontal distance traveled vs time so that you can plot height vs distance.

Copy and paste all of your works into an MS Word file to upload into Mentor:

* MatLab source code (\*.m file)
* MatLab output during execution
* MatLab plot of the trajectory

Be sure to explain all your work (in English) as part of the report as well as you thoughts on using MatLab as an engineering analysis tool.

Hints:

* First calculate how long the cannon ball will be in the air using the vertical component of the trajectory.
* Then calculate the two vectors of altitude vs time and distance down range vs time for that time interval.
* Use the command plot(X, Y) to plot the trajectory.  Typing "help plot" in MatLab will tell you how to use the Plot function.