Download the file test_data.txt before starting.

1. The position, speed, and acceleration equations for a particle are given as

$$x = 2t^3 - 24t + 6$$
$$v = 6t^2 - 24$$
$$a = 12t$$

Plot the position (x), speed (v) and acceleration (a) for the particle together on one plot for time ranging from 0 to 4 seconds, in increments of 0.1 seconds. Use the following formats:

Position – dotted green line with * markers

Speed – dashdot black line with circle markers

Acceleration – solid yellow line with hexagram markers

x-axis – go from -1 to 5

y-axis – go from -30 to 75

x-axis label – 'time (sec)'

y-axis label – none

add a legend – be sure to include units

turn grid lines on

title: 'Position, Speed, and Acceleration of Particle A'

2. Load the file test_data.txt. This file contains altitude, temperature, pressure, and density data (in that order). You need to generate a plot of altitude vs. temperature. Label the axes and give the plot a title. Select a color, marker and line type for the plot. Next, save the pressure and density data in a new file called 'pressure_density.txt'. Pressure data goes in the first column and density goes in the second.