Physics 141
Winter 2015

Chapter 2 Written Assignment

Due Wednesday, January 21 in class

Rocket II
A 1000 kg weather rocket is launched straight up. The rocket motor provides a constant acceleration for 16 seconds, then the motor stops. The rocket altitude 20 seconds after launch is 5100 meters.
a) Sketch position vs. time, velocity vs. time, and acceleration vs. time for the rocket.
b) What was the rocket’s acceleration during the first 16 seconds?
c) What is the rocket’s speed as it passes through a cloud 5100 meters above the ground?

a) Before you answer the questions above, sketch graphs for y(t), v(t) and a(t) indicating as much as is given in the problem (without solving anything, yet)

Do part b)

Do part c)

Now redo your graphs putting in as much numerical data as you can. Indicate slopes on the velocity graph.

Since you now know the functions, you could use some graphing program to plot the functions for you – and indicate values --- if you know how, or want to learn, please do so!