

Prelab

PHYS221

Motion

These questions are taken from Chapter 2 of text.

1. Use a coordinate system similar to that found in your textbook, sketch the distance *vs.* time graph for each of the following situations (you need a total of four separate graphs):
 - an object at rest
 - an object moving in the positive direction with a constant speed
 - an object moving in the negative direction with a constant speed
 - an object that is (constantly) accelerating in the positive direction, starting from rest
2. Sketch the velocity *vs.* time graph for each of the situations in question one.
3. Sketch the acceleration *vs.* time graph for each of the situations described in question one.
4. Consider a ball thrown straight upward. It moves up, changes direction, and falls back down. What is the acceleration of a ball on the way up? What is the acceleration when it reaches its top point? What is the acceleration on the way down?
5. Sketch distance *vs.* time, velocity *vs.* time and acceleration *vs.* time for a ball thrown straight upward and its downward path.