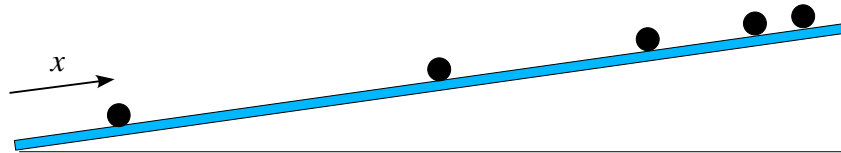


Physics 10310
Discussion Section Questions

Set 1

Directions: One person in your group should act as "scribe" to record your group's solution on a sheet of paper. Please make sure your answers are legible and comprehensible.

1. A ball rolls up, then down an inclined plane. Take your x axis to be parallel to the surface of the plane.



Sketch x versus t , v versus t , and a versus t graphs for the entire motion of the ball rolling up and back down, choosing the starting point at the bottom as $x = 0$ in each case.

- a) Use a coordinate system in which the positive x direction is *up* the track.
- b) Use a coordinate system in which the positive x direction is *down* the track.

2. Ann and Susan cross the finish line of a 100-m race in a dead heat, each with a time of 10.200 seconds. Each of them accelerated uniformly from their blocks. Ann took 2.00 seconds to reach her maximum speed, which she maintained throughout the race. Susan took 3.00 seconds to reach her maximum speed, which she also maintained throughout the race.

- a) What was the acceleration for each sprinter?
- b) What were their respective maximum speeds?
- c) Which sprinter was ahead at 6.00 seconds into the race, and by how much?