PHYSICS SONIC RANGER ACTIVITY

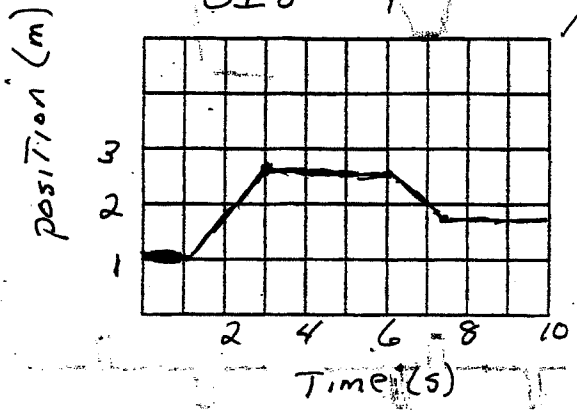
Part 1: DTMATCH. The Sonic Ranger/LabQuest unit is going to create a graph for you to match. Your objective is to accurately walk 4 different graphs generated by the unit, and sketch them in the grids below. Accomplish the following steps:

1. Open LoggerPro 3.6, then open file "Physics with Vernier" graph 01b.
2. In the first grid below, sketch the graph you will be attempting to follow.
3. Stand with the reflecting board the proper distance from the Sonic Ranger, and as your partner clicks the "Collect" button, attempt to match the graph.
4. Once done, sketch in your attempt with a different color pencil.
5. Try improving on your attempt to match the graph, and sketch this in with a different color pencil.
6. Have your partner do the above steps.
7. Repeat the above steps for Vernier graphs 01c, 01d, and 01e. Sketch them in on the other grids below.

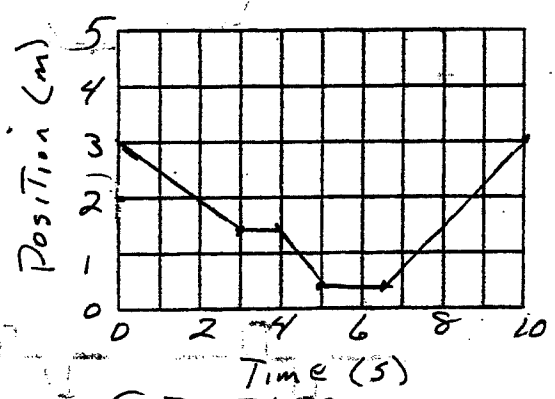
GOOD LUCK!

Distance/Time (Position/Time) GRAPHS

01b Graph Matching

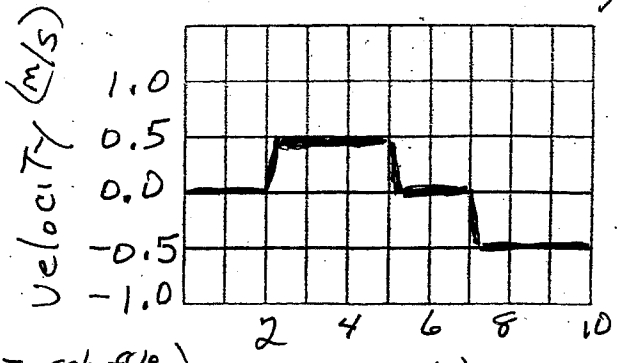


01c Graph Matching



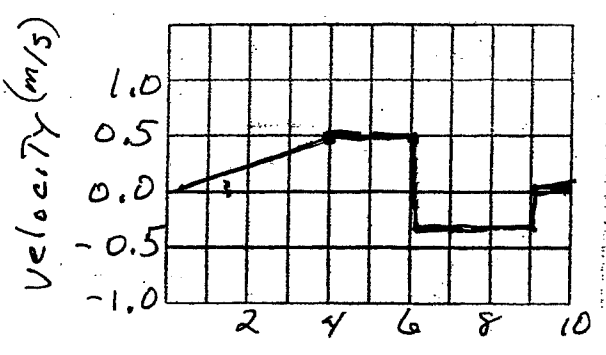
Velocity/Time GRAPHS

01d Graph Matching



(hint: schuffle on little steps)

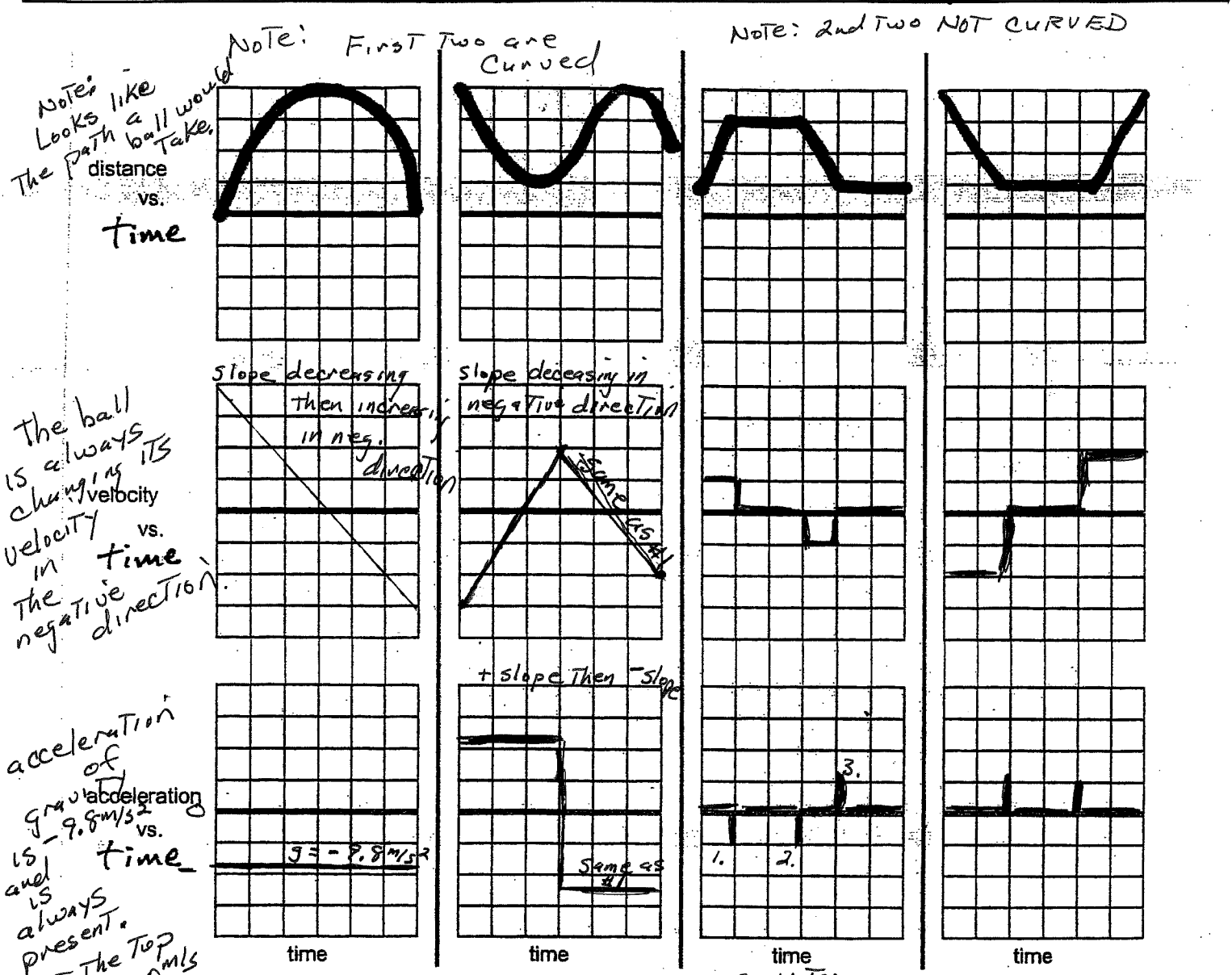
01e Graph Matching



KEY

Part 2: MOTIONRT. The Sonic Ranger/LabQuest unit is going to allow you to walk a graph and display your motion in real time. You will attempt to replicate the 4 position-time graphs shown below. You can repeat the process to improve your results. After doing each graph shape, sketch the corresponding velocity-time and acceleration graphs below. GOOD LUCK!

ALL OIa Graph Matching



At The Top Velocity = 0 m/s but gravity does not shut off (The Earth does not disappear) so at The Top of The balls motion acceleration of gravity is still -9.8 m/s²

2. Note: sped up but in negative direction

3. went from neg. To stopped so need a + acc. To negate The neg.