

Written Homework #2

Physics 131 Spring 2009

Due on Friday 13 Feb 2009 at the beginning of lecture.

Write down your name and student ID number.

- a. On a position-vs-time graph, plot the path of a car that travels from a starting point to a point 20 km along a straight road with a velocity of 80 km/h. It stops for 15 min, then continues on the same straight road for an additional 60 km at the same velocity.
- b. On the same graph, draw the path of a second car that starts from the same initial spot 30 min after the first one and travels at 120 km/h in the original direction of the first car.
- c. When and where will the two cars meet? Determine this using only your graph.
- d. When will the two cars meet? Answer the same question as in (c) but this time solve the problem algebraically, i.e. using the equation describing uniform motion. [Hint: For the first car, consider only the motion after its 15-min stop.]

Show your work to get full credit.