

# Chapter 8: Motion

## Class 9<sup>th</sup>

### Activity 8.1

Read the following situation and answer the questions given at the end.

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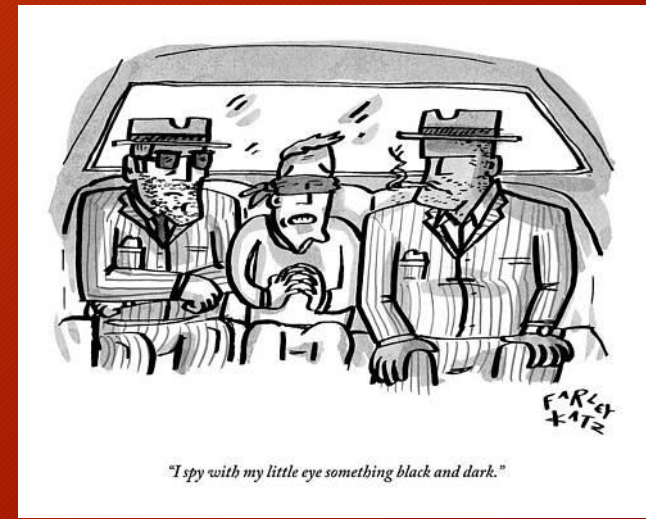
# The Kidnapping Problem

You are kidnapped by political-science student (who are upset because you told them political science is not a real science). Although blindfolded, you can tell the speed of their car (by the whine of the engine), the time of travel (by mentally counting off seconds), and the direction of travel (by turns along the rectangular street system).

From these clues, you know that you are taken along the following course:

50 km/h for 2.0 min, turn  $90^\circ$  to the right, 20 km/h for 4.0 min, turn  $90^\circ$  to the right, 20 km/h for 60 s, turn  $90^\circ$  to the left, 50 km/h for 60 s, turn  $90^\circ$  to the right, 20 km/h for 2.0 min, turn  $90^\circ$  to the left, 50 km/h for 30 s. At that point,

- (a) how far are you from your starting point, and
- (b) in what direction relative to your initial direction of travel are you?



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