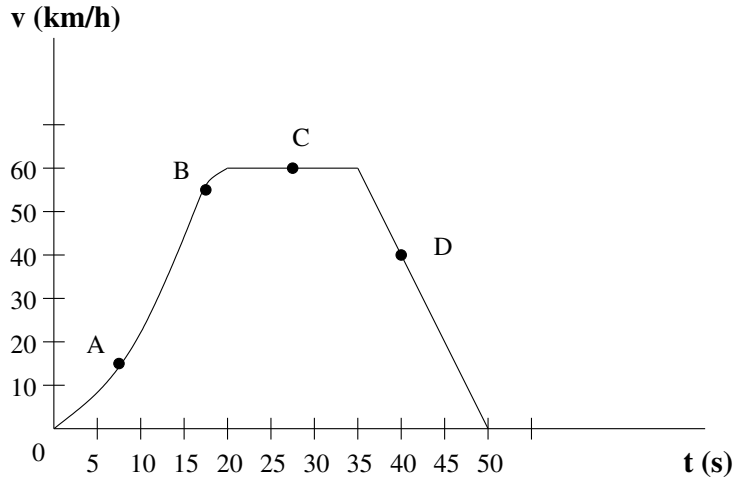# Additional Problem II for Physics 101 (from an old quiz)

The graph below shows the velocity of a car (in kilometers per hour) as a function of time (in seconds); all parts of this question refer to this graph.

a) What is the car's *average* acceleration, in m/s^2, during the interval from $t = 0$ to $t = 15$ s? Show your work.

b) What is the car's *instantaneous* acceleration at $t = 40$ s?

c) At which, if any, of the labeled points (A, B, C, D) is the acceleration...

    (i) ...increasing?

    (ii) ...decreasing?

    (iii) ...constant?

Explain your reasoning in each case.