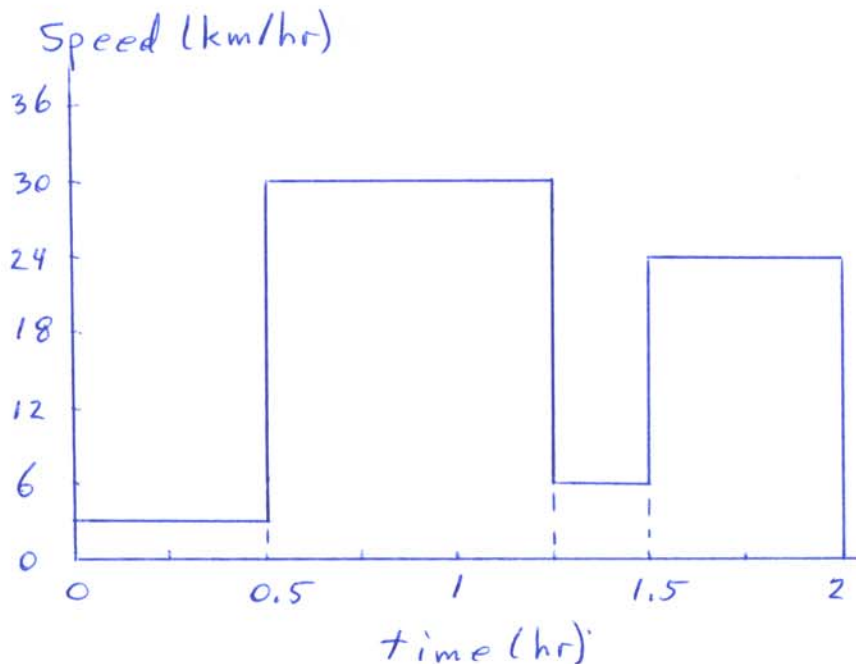


Assignment 1

1. Find the time it would take a spaceship traveling 10 km/sec to reach the nearest star. Express the answer in seconds and in years.
2. How long does it take light to travel from the sun to the Earth? Express the answer in seconds and in minutes.
3. Crudely estimate (i.e. order of magnitude) the number of atoms in the human body.
4. Consider the figure below showing the speed versus time of a hitchhiker who travels first on foot, then by car, then by tractor and then in another car.
 - a) Find the total distance traveled
 - b) Find the average speed for the trip
 - c) Draw the distance time graph for the trip



5. A car accelerates from rest at a constant 2 m/sec^2 .
 - a) Find the speed in m/sec and km/hr at $t = 0, 1, 2, 3, 4, 5$ sec and plot the speed versus time.
 - b) Find the distance traveled at $t = 0, 1, 2, 3, 4, 5$ sec and plot the distance versus time.