Question 1. Define a public class (Java or C++) titled `Vehicle` with the following properties:

a) The class has five instance variables `model`, `make`, `color`, `plate_number` and `vin_number`.

b) Variables `model`, `make`, and `color` are public.

c) Variables `plate_number` and `vin_number` are private.

d) Variables `model`, `make`, and `color` are strings; `plate_number` and `vin_number` are integers.

e) The class has one explicitly defined constructor, which takes `new_model` as an input parameter. The constructor, when invoked, creates an instance of the class and assigns the value to the `model` variable.

f) The class has two methods `SetPlateNumber` and `SetVinNumber`. The methods assign numerical values for each variable from the passed arguments.
**Question 2**: Explain, draw a picture, how GPS (Global Positioning System) works.

**Question 3**: All coordinates are expressed in meters. Initially \((t=0 \text{ [s]})\) a vehicle is at \((x_0, y_0) = (5, 10)\) and travels in the NorthEast direction for 7 seconds. The vehicle speed is \(10 \text{ [m/s]}\). What are the coordinates \((x_7, y_7)\) at \((t=7 \text{ [s]})\)?