Student:_____**Email:**_____

How Things Work

**Homework 1 – Due Sunday, June 10, in class**

1)   Read Section 1.1 in the Textbook (Pages 1-12) and write a 1-page summary in your own
         words **(<u>No verbatim rendering, copying, or paraphrasing accepted.</u>)**

2)   *Select* 7 of the physical quantities introduced in Section 1.1 of the textbook and *link* them through relationships such as physical laws, physical principles, cause and effect relationships, or concept definitions (1-page maximum).

3)   Based on your study of Section 1.1, *compare and contrast* Aristotle's and Newton's views of the effect of forces on the motion of objects.

4)   Explain in your own words the Law of Inertia (Newton's First Law)

5)   The figure below shows the street map of a town. State the **position** of car 1, car 2 and car 3.
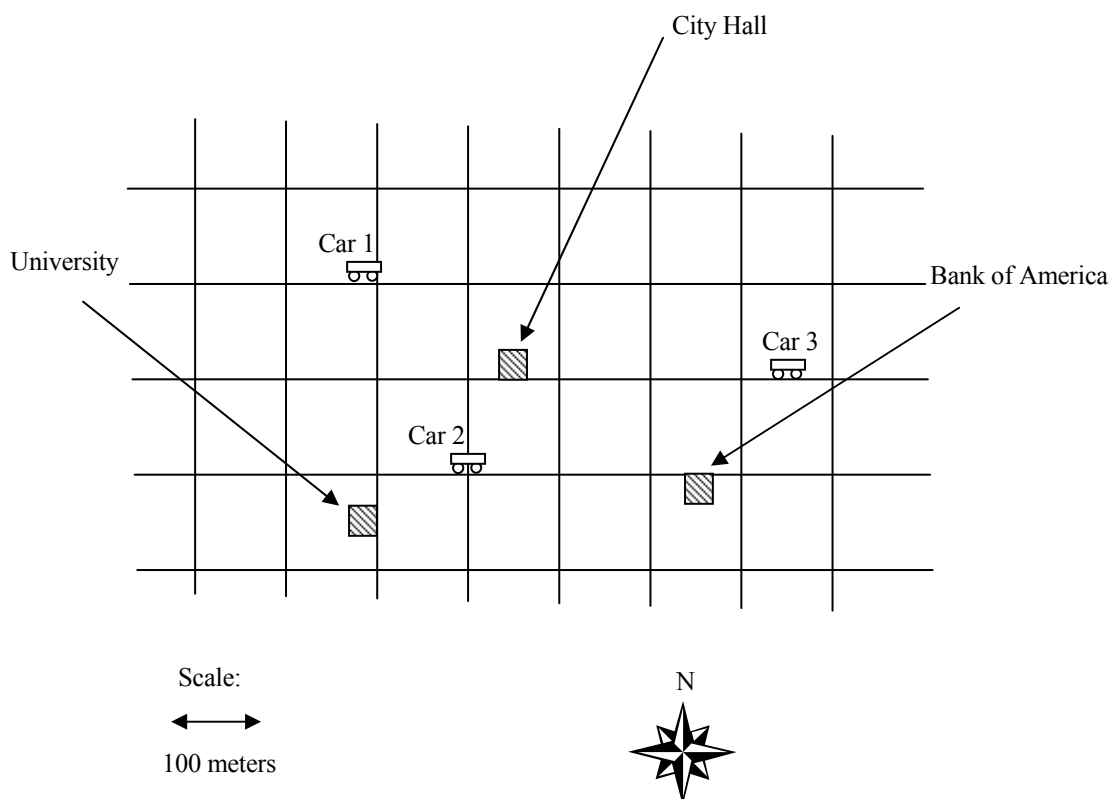
6)   A car travels along a highway according to the figure below, covering a distance of 62 meters every 2.8 seconds. Determine the **speed** and the **velocity** of the car.
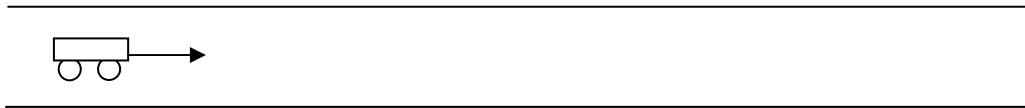
7)   Explain the concept of **acceleration.**

8)   A car moves along a level road in a straight line at **constant** speed. What is the **net force** on the car?

9)   Explain how you came to your conclusion in the previous question.

10)   A hockey puck slides on frictionless, level ice. What can be said about the **velocity** and the **acceleration** of the puck? Explain why you came to your conclusions.

11)   An elevator is moving up at a constant speed. It covers the distance between the 13th and 17th floors in 2 seconds (Note: The distance between two consecutive floors is 4 meters)

   A) What is the speed of the elevator?
   B) What is the velocity of the elevator?
   C) What is the acceleration of the elevator?

12)   Visit the web page http://www.humanmetrics.com/cgi-win/JTypes2.asp and take the
        online test to determine your learning style.

        Enter outcome in the table *(see example below)*:

Your Type is: (enter 4 letters)				
Strength of the preferences (%)				

Example:

Your Type is: (enter 4 letters)	ISFP			
Strength of the preferences (%)	67	25	25	56