Physics 151 Reading Assignment for August 29 Sections 2.3 to 2.5

Please notice that this file is two pages long.

2.3 - Instantaneous Velocity

- Instantaneous Velocity - velocity at one instant of time.

- From now on, velocity = instantaneous. $\dfrac{\Delta x}{\Delta t}$ = average velocity.

- Instantaneous velocity still slope of position-versus-time graph.

- Watch out for this procedure at the bottom of page 39. Even though the textbook does a numerical example, we rarely have enough information in our problems to get the correct value for velocity.

- Displacement still area under the velocity-versus-time graph.

2.4 - Acceleration

- Acceleration - rate at which velocity changes.

- $a_x = \dfrac{\Delta v_x}{\Delta t}$ - Actually only true for constant acceleration motion. Luckily, that's the only type we'll do.

- Unit of acceleration: $\dfrac{m/s}{s} = m/s^2$.

- Acceleration is the slope of the velocity-versus-time graph.

- The sign (and therefore direction) of acceleration is tricky. Read this carefully.

2.5 - Constant Acceleration

- You will be expected to know and be able to use the three equations of motion on page 45 for the *rest* of your physics studies. For now, learn them and try to understand what they mean. We'll practice using them in problem solving in the next section.

- For constant acceleration, the velocity-versus-time graph is a straight line and the position-versus-time graph is a parabola.