Problem Set #1

Problem Set Due: Wed., Jan. 27, 2016

Read Hewitt: Chapters 1 & 2

Algebra Exercises (show explicitly all your work for full credit):

1. Given that $v_{ave} = \frac{d}{t}$, solve for $d$.

2. Given that $d = \frac{1}{2}at^2$, solve for $t$.

3. Given that $v_{ave} = \frac{v_i + v_f}{2}$, $a = \frac{v_f - v_i}{t}$, and $v_{ave} = \frac{d}{t}$, solve for $d$ in terms of only $a$, $v_i$, and $t$. Simply your expression and show that $d = v_i t + \frac{1}{2}at^2$.

Physics Problems (show explicitly all your work for full credit):

4. Hewitt: Reading Check Questions 1, page 35
5. Hewitt: Think and Solve 27, page 35
6. Hewitt: Think and Rank 31, page 36
7. Hewitt: Think and Explain 37, page 36
8. Hewitt: Think and Discuss 79, page 38
9. Hewitt: Reading Check Questions 1, page 68
10. Hewitt: Plug and Chug 36, page 69
11. Hewitt: Think and Solve 48, page 70
12. Hewitt: Think and Rank 54, page 70
13. Hewitt: Think and Explain 58, page 71
14. Hewitt: Think and Discuss 101, page 73