

## Homework 2

Due at the beginning of class Jan. 27

From T&M:

Appendix C: Exercises C-1, C-2, C-3

Chapter 2: 2, 23, 39, 43, 47, 53, 54

11. Repeat Example 2.5 from T&M using a drag (retarding) force whose magnitude is  $kmv^2$ . In particular:

- (a) Find  $v(t)$ . Is there a terminal velocity? What is it?
- (b) Plot your  $v(t)$  similar to Fig. 2.6 (with the same three initial conditions) and discuss the plot physically.
- (c) Find and plot  $x(t)$  for the same three initial conditions as in (b). Discuss the plot physically.