Due: 21 October (note date!)

Read Marion & Thornton Chapter 10.

1. A parachutist falls from rest in gravity and experience (hopefully) aerodynamic drag $\vec{F}_{Aero} = -cv\vec{v}$. Find:

    (a) $v_{terminal}$

    (b) $v(t)$

    (c) $x(t)$

2. Solve the previous problem, part (c), by numerical methods. Use:

$$m = 70 \text{ kg} \qquad t_0 = 0$$
$$c = 0.3 \text{ N.s}^2/\text{m}^2 \qquad x_0 = 0$$
$$v_0 = 0$$

    (a) Generate a table

	$x(t)$			
t (sec)	$\Delta t = 1$ sec	$\Delta t = 0.1$ sec	$\Delta t = 0.01$ sec	Theory
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

    (b) Plot the four curves.

3. Marion & Thornton 2-12.

4. Marion & Thornton 2-27.

5. Marion & Thornton 10-2.

6. Find a typo in Marion & Thornton.