Additional Note: Lab 4

Some people were having some difficulty with part 5 of the lab, and the difficulty is in getting Maple to come up with an answer that is comparable to what's written in the lab.

The hint for part 5 is to assume $y_0 = 0$ and to use algebra by hand to show that you do indeed get what's in section 5. Use the following forms for $v(t)$ and $y(t)$:

$$v(t) = \left(v_0 + \frac{mg}{p}\right) e^{-\frac{p}{m}t} - \frac{mg}{p}$$

$$y(t) = \left(v_0 + \frac{mg}{p}\right) \frac{m}{p} \left(1 - e^{-\frac{p}{m}t}\right) - \frac{mg}{p}t$$

You might need to perform a couple of substitutions. Remember that, from the way t_1 is defined,

$$\left(v_0 + \frac{mg}{p}\right) e^{-\frac{p}{m}t_1} - \frac{mg}{p} = 0$$

This is the substitution (or simplification) that Maple won't do.