Math 026L.04 Spring 2002
Quiz #3   Name: _____

You have 20 minutes to complete this quiz which is worth 20 points. Calculators are permitted, but no other aids are allowed. Show all work neatly and in order, and clearly indicate your final answers. Answers must be justified whenever possible in order to earn full credit. When you do use your calculator, sketch all relevant graphs and write down all relevant mathematics.

1. (*8 points*) Write short clear descriptions of the following terms.

 (a) differential equation

 (b) initial value problem

2. (*8 points*) Solve the following initial value problems.

(a) $y'(x) = 2x + 3$, $y(0) = -2$

(b) $y''(t) = t^2 - 5$, $y(1) = -2$, $y'(1) = 2$

3. (*4 points*) A particle moves on a line with acceleration $s''(t) = -4t$. Suppose that $s(0) = 6$ and $s'(0) = 24$. Find the functions $s(t)$ and $s'(t)$.