Math 026L.04 Spring 2002
Assignment #4

This assignment is due Monday, February 18, 2002. You must work through all problems on your own. You may consult any reference materials, and seek help in the Help Room, but do not discuss these problems with anyone else in the class. Answers must be justified whenever possible in order to earn full credit.

1. Solve the following initial value problems.

(a) $\dfrac{dy}{dx} = 3x^2y^2 - y^2$, $y(0) = 1$

(b) $\dfrac{dy}{dx} = \sin x + y^2 \sin x$, $y(0) = 0$

2. Coursepack Page 96 #7

3. A cake is removed from the oven at a temperature of 210°F. It is placed on the counter in the 70°F kitchen and allowed to cool. After 30 minutes, the temperature of the cake is 140°F. When will the temperature of the cake be 100°F?

4. Coursepack Page 104 #7

5. Coursepack Page 104 #11