MA 238-02	**Test #1**		**Name:** ————————————
§1.1–2.5	**Take-home part**	*score*	**29 June 2001**

INSTRUCTIONS: Work the following problem and turn it in no later than noon on Tuesday, 3 July 2001, in class.

PROBLEM: Consider the IVP

$$y' + y^2 = t \qquad y(0) = 1$$

The goal is to approximate the value of y(1).

1. Do this first using the Euler method with 2 subdivisions. Show your calculations.

2. Next do this with the Runge-Kutta method using 2 subdivisions.

3. Use you calculator to see what the approximation would be using 10 divisions on the Euler method. Then use your calculator to give the most accurate value possible.