

MAT360 Final Exam (Fall 2009): take-home component

Name:

Directions: This is the numerical complement to your in-class final exam. You may do the following two problems by hand, or using computer software. Needless to say (but I'll say it anyway) you are to work alone. Each solution should be on a separate page or pages.

This is due at the time of your in-class final (next Wednesday, 12/16).

Problem 1. In this first problem you are to reproduce Table 5.3, p. 270, but by

- a. using a different IVP (of course!). Choose your favorite of the IVPs of Exercises 1 or 2, p. 271;
- b. using 10 steps (rather than the h given); and
- c. extending the table by including a column for the true value (actual solutions given in Exercises 3 and 4, p. 263).

Problem 2. Reproduce Table 5.5, p. 278, but by

- a. using a different IVP (and a different one from your choice in Problem 1, but choosing from the same group as in Problem 1);
- b. extending the table by including columns for RK-4 and the true values.