

Math 481a, Spring 2026

Test 3 Guide

The material from the following sections of the textbook is required for Test 3:

- Sec. 4.2 - Richardson's Extrapolation;
 - Sec. 4.3 - Elements of Numerical Integration (except for Closed/Open Newton-Cotes Formulas);
 - Sec. 4.7 - Gaussian Quadrature.
 - Sec. 5.1 - The Elementary Theory of Initial-Value Problems;
 - Sec. 5.2 - Euler's Method;
 - Sec. 5.3 - Higher-Order Taylor Methods;
 - Sec. 5.4 Runge-Kutta Methods
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- Sec. 4.2 - Problems 8, 9, 10, 11, 12, 13;
 - Sec. 4.3 - Problems 1, 2, 3, 4, 13, 14, 19, 20, 21, 22, 23, 24, 25, 26;
 - Sec. 4.7 - Problems 1, 2, 3, 11, 12, 14.
 - Sec. 5.1 - Problems 1, 2, 3, 4, 8, 10;
 - Sec. 5.2 - Problems 1, 2, 3, 4, 5, 9, 12, 13, 14;
 - Sec. 5.3 - Problems 1, 2, 5, 6, 9;
 - Sec. 5.4 - Problems 1, 2, 5, 6, 9, 29;.

In addition to the above problems, study the problems from the class sessions and homeworks.