

MATH 311 Exam I (2.5 - 3.2, 3.6, 3.7) Review

1. Know how to solve first-order DE using special integrating factor.
2. Know how to solve homogeneous and Bernoulli equations.
3. Know how to solve equations of the form $\frac{dy}{dx} = G(ax + by)$ and equations with linear coefficients.
4. Know how to form population models and solve mixing problems
5. Know the improved Euler's method and Runge-Kutta methods and how to use them to find an approximate solution to an IVP.

Example exercises: Quiz & Homework questions; Ch.2 Review Problems, #18 - 30, 35, 38, 40;
Ch. 3.6, #7 - 13; 3.7, #7-9, 19