

MATH 2204 - Exam 1 - Study Guide

Topics that could come up as a question:

1. Slope Fields/Classifying ODEs -Chapt 1
2. Linear Equations/Integrating Factors– Sec 2.1
3. Separable -Sec 2.2
4. Substitution $v=y/x$ - Sec 2.3
5. Mixing Problem Sec 2.4
6. Existence and Uniqueness Sec 2.6
7. Autonomous - Sec 2.7
8. Exact Equations – Sec 2.8
9. Euler's Method – Sec 2.9

When seeing a question about solving a 1st ORDER differential equation: Go down the following list to figure out which method to use:

Ask yourself, is it,

1. Linear/Integrating Factors?
2. Separable?
3. $v=y/x$ substitution?
4. Exact?

Also, please know the difference between an **explicit** and **implicit** solution.