

Review 1 Math 361

Any term in **bold face** know the definition well enough to state it on the test. The definition you give should be very similar to the one in the book or one with similar detail.

Section 1.1 **differential equation, order of a differential equation, linear differential equation, solution**
trivial solution, implicit solution, systems of differential equations

Sample problems Example 3 Exercise 17

Section 1.2 **Initial value problem, initial conditions**

Sample problems Example 1 Exercises 7,9

Section 2.1 **autonomous differential equation, critical point**, attractor, repeller

Sample problems Example 5 Exercise 7

Section 2.2 **separable** , integral solution

Sample problems Example 3,4 Exercises 21,25

Section 2.3 **First order linear equation, integrating factor for linear equations**,

Sample problems Example 5,6,7 Exercises 19,27

Section 2.4 **exact equation, integrating factor for exact equations**, [Know proof of Theorem 2.4.1](#)

Sample problems Example 2,3 Exercises 31

Section 2.5 **homogeneous DE, Bernoulli DE** , linear substitution

Sample problems Example 1 Exercises 11 ,17,25

Section 3.1 **Know standard differential equations for: Growth/Decay(1), Newton's Law of Cooling (2), Mixtures (5)**,

Sample problems Example 1,2,4,5

Section 3.2 **Know standard differential equations for: Logistic Growth (4), Second order Chemical reactions (9)** ,

Sample problems Example 1,2