

## 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 order of a differential equation, linear differential equation

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

Section 2.1 attractor, repeller  
Sample problems Example 5 Exercise 7

Section 2.2 **separable differential equation**, 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 1, 2,3 Exercises 31

Section 2.5 **homogeneous DE, Bernoulli DE** , linear substitution  
Sample problems Example 1 Exercises 1,11 ,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