

Final Exam Review Homework Problems

Below is a shortened list of homework, test prep and exam problems by topic (these were all assigned homework problem this quarter). If you want to review a particular topic, you can go back and look at these problems. And for more practice, try other problems in those homework sets.

1. Chapters 1 and 2: First order Equations.

Integrating Factor Method	2.1/13, 15, 19; 2015 E1 1(b); 2016 E2 1(a)
Separable Equations	2.2/4, 6, 13; 2015 E1 1(a); 2016 E2 1(b)
Change of Variable	HW 2 Prob 1; 2016 E2 2(b)
Applications	1.1/21, 23; 2.3/4, 9, 16, 21; 2015 E1 3(b),5; 2016 E2 3, 4, 5
Existence and Uniqueness	2015 TP 2: 2,3; 2015 E1: 2(b)
Autonomous equations, Equilibrium	2.5/3, 7, 19; 2015 E1 3(a),4(b); 2016 E2 4, 5
Exact equations	2.6/1, 10, 13; 2015 E1 2(a); 2016 E2 2(a)
Euler's method	2.7/1, 11; 2015 E1 4(a); 2016 E2 4(a)

2. Ch. 3: Linear Second Order Equations.

Homogeneous Equations	3.1/2, 12, 16; 3.3/7, 11, 17; 3.4/2, 6, 11
Linearity/Fund. Sets of Sol'ns	3.2/28; 2015 TP 3 1 on back
Reduction of Order	3.4/24, 25; 3.6/29; 2015 E2 5; 2016 E2 6
Undetermined coefficient	3.5/2, 6, 8, 16; 2015 TP 3; 2016 TP 3; 2015 E2 4; 2016 E2 1
Unforced Mass-Spring	3.7/2, 6, 11, 17; 2015 E2 1,2(a); 2016 E2 2-5
Forced Mass-Spring	3.8/7, 8; 2015 E2 2(b),3; 2016 E2 2-5

3. Ch. 6: The Laplace Transform: **Know all the homework and know it well!** You can also look at the last three pages of my 2015 final for examples of typical types of questions I might ask on a final.