

Math 142 - Suggested Study Guide for the Final Exam

Be sure to review the old homeworks and study problems. Here are additional problems similar to the ones that might be on the final exam.

- **Functions and Inverses** Cht. 5 review # 3, 5, 35, 77
- **Differentiation** Cht. 5 review # 9, 11, 47, 67
You may need to review logarithmic differentiation to solve #67.
- **Integration** Cht. 5 review # 51, 53, 87
- **Differential Equations** Section 6.3 # 1, 7, 15
- **Volumes of Revolution** Section 7.3 # 25, 27
- **Integration by Parts** Section 8.2 # 11, 17, 49, 61
- **Trigonometric Substitutions & Integrals** Section 8.4 # 5, 11, 29
- **Partial Fractions** Section 8.5 # 7, 13, 57
- **L'Hospital's Rule** Section 8.7 # 13, 15, 19, 29, 39, 47
- **Infinite Series** Cht. 9 review # 9, 11, 23, 25, 27, 37, 41, 49, 69
- **Functions & Power Series** Section 9.9 # 1, 15, 21
- **Taylor & Maclaurin Series** Section 9.10 # 21, 23, 37, 47

You must be able to recognize the special types of series including: geometric series, alternating series, p-series, and power series.

Make sure that you know each of the following tests:

- Divergence Test
- Integral Test
- Comparison Test
- Ratio Test
- Alternating Series Test
- p-Test (for both series and integrals)