

Math 120: Midterm 2 Review

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The midterm on November 4 covers Sections 3.5-3.11 and 4.1-4.5. Below is a list of some practice problems for the topics on the midterm.

- Implicit Differentiation: Sec. 3.5, problems 5-32, 35-38
- Derivatives of functional inverses: Sec. 3.5, problems 49-62
- Derivatives of log functions: Sec. 3.6, problems 2-38
- Logarithmic Differentiation: Sec. 3.6, problems 39-50
- Rates of change and exponential growth: Sec. 3.7, problems 1-26 AND Sec. 3.8, problems 1-4, 7-19
- Related Rates: Sec. 3.9, problems 1-50
- Linear approximations: Sec. 3.10, problems 1-4, 15-18, 23-31, 33-40
- Derivatives of hyperbolic trig: Sec. 3.11, problems 30-47
- Max/min and the First Derivative Test: Sec. 4.1, problems 15-44, 47-62 AND Sec. 4.3, problems 9-18(a, b)
- Concavity and the Second Derivative Test: Sec. 4.3, problems 9-18 (c), 22
- Graph Sketching: Sec. 4.5, problems 1-54
- Mean Value Theorem: Sec. 4.2, problems 5-8, 11-14, 19-33
- L'Hospital's Rule: Sec. 4.4, problems 8-68

For general review:

- Chapter 3 Review (page 266)
 - Concept Check: 2(d, e, l-r), 4-7
 - Exercises: 6, 8-10, 12, 14, 15, 17, 21, 25, 27, 29, 31, 33, 38, 40, 43-48, 53, 55, 60, 61, 66, 68, 77, 78, 83-101, 102(a), 103(a), 104, 105, 110, 112
- Chapter 4 Review (page 358)
 - Concept Check: 1, 2(a), 6, 7, 8
 - True/False Quiz: 1-6, 8-17, 19-21
 - Exercises: 1-38, 46-49, 57, 73, 74, 78