Exam 2 Review  Math 221 EL1 Fall 2012

All math classes have an internal struggle between computations and concepts. In later classes you will need both computational skills and conceptual understanding. Not every section of the book contains equal amounts of the two.

Study computational issues through repeated practice. Study conceptual issues by conversation or contemplation (struggle).

Font size below roughly indicates the long-term importance of the topic to further math and science (not necessarily the short-term importance for this exam).

### 3.6
- Derivatives of Logarithms
- Why Use Logarithms?

### 3.7
- Exponential Growth
- Velocity and Acceleration
- Population Growth
- Other Rates of Change

### 3.8
- Cooling
- Related Rates
- Differentials

### 3.9
- Linearization
- Absolute Max and Min
- Local Max and Min

### 3.10
- Differentials
- Extreme Value Theorem
- Rolle’s Theorem
- Mean Value Theorem

### 4.1
- First Derivative Test
- Increasing/Decreasing
- Conavity
- Inflection Points

### 4.2
- L’Hospital’s Rule
- All the Indeterminate Forms

### 4.3
- Curve Sketching

### 4.4
- Optimization