

CONCEPTS TO KNOW - EXAM III

■ Mean Value Theorem

■ Graph Sketching

- Asymptotes – 3 types
- First Derivative Test, Intervals of Increasing and Decreasing, and Local Extrema
- Second Derivative Test and Intervals of Concavity
- Inflection

■ Graphs relating f , f' , and f''

■ Absolute Extrema

- Extreme Value Theorem (Continuous on a closed interval)
- Not continuous
- Continuous on an open interval (Second Derivative Test)

■ Optimization

■ L'Hospital's Rule – 4 cases

■ Sequences and Recursions

- solutions
- limits
- fixed points
 - stable and unstable
 - with and without oscillations
 - derivative criterion
 - cobwebbing