

# Chapter 3 Review

**You must be able to or know:**

- 1. Rolle's Theorem, Extreme Value Theorem, and Mean Value Theorem**
- 2. Finding absolute extrema on a closed interval (check endpoints)**
- 3. Find intervals where  $f(x)$  is increasing / decreasing**
- 4. Find intervals where  $f(x)$  is concave up / down**
- 5. Know what it means when the 1<sup>st</sup> derivative is positive or negative vs. when it is increasing or decreasing**
- 6. Find critical numbers/points, points of inflection, horizontal and vertical asymptotes, zero's, and y intercepts**
- 7. Find the limit as  $x$  approaches infinity**
- 8. The First and Second Derivative Tests and when/how they can be used**
- 9. Maximization / Minimization problems**
- 10. Newton's Method**
- 11. Make a detailed graph using the different techniques of this chapter**

**Suggested Problems:**

**Day 1 p.242 #'s 3-19 odd, 23, 25**

**Day 2 p. 242 #'s 29, 31, 37, 39, 45, 49, 55-61odd, 71, 75, 79, 81**