

Section 10.4-10.5 Limits and Continuity

Key Topics:

- Understanding the concept of taking a limit
- Finding two sided limits using graphs or using tables
- Finding finite limits algebraically
- Showing that a limit does not exist
- Finding infinite limits
- Graphing piecewise defined functions
- Finding one sided limits
- Ability to state and apply the 3 part definition of continuity
- Determining whether a function is continuous or discontinuous at a given point

Section 10.6 The Derivative

Key Topics:

- Understanding the idea of the derivative as a rate of change; that is, the slope of a tangent line
- ability to find estimates of the derivative using secant lines to calculate the average rate of change over an interval.
- Know the formal limit definition of the derivative
- Using the limit definition of the derivative to find the derivative of a given function
- Using the derivative to find various tangent lines to a given function.

Section 11.1-11.3 Differentiation Formulas

Key Topics:

- Finding the derivative of a constant or of a linear function
- Finding the derivative of a power function
- Finding the derivative of a constant multiple of a function
- Finding the derivative of the sum or difference of two functions
- Finding the derivative of products and quotients of functions
- Using the Chain Rule to find the derivative of composite functions
- Differentiating functions using several rules together

Section 11.4 Marginal Functions in Economics

Key Topics:

- Review cost, revenue, profit, supply, and demand functions ($C(x)$, $R(x)$, $P(x)$, $ap + bx = c$)
- Finding and interpreting the meaning of *average* cost, *average* revenue, and *average* profit functions ($\bar{C}(x)$, $\bar{R}(x)$, and $\bar{P}(x)$)
- Finding and interpreting the meaning of marginal functions for cost, revenue, and profit ($C'(x)$, $R'(x)$, $P'(x)$)

Chapter 10 Review Problems: p. 637-638 # (7, 11, 18, 19, 21, 23, 30, 31, 44)

Chapter 11 Review Problems: p. 725-727 # (1, 5, 9, 11, 17, 20, 25, 29, 52, 57)