

AP Calculus (BC)

Graph Behavior

The list below contains the *learning targets* for the unit on graph behavior. Before the unit test, you should be able to place a check next to each statement as being true.

- I can find the critical points of any function.
- I can describe intervals of increase, decrease, and concavity for any function.
- I can locate the absolute extrema for any function.
- I can locate the relative extrema for any function.
- I can locate the points of inflection for any function.
- I can describe the graphical relationships among f , f' , and f'' .
- I understand the conditions, conclusions, and implications of the Mean Value Theorem.

Textbook Assignments

The exercises below are from *Calculus: Graphical, Numerical, Algebraic* by Finney, Demana, Waits, and Kennedy. These specific problems are the bare minimum that should be completed after each lesson, but you are encouraged to attempt more if needed.

- 4.1 Absolute Extrema **pg 184: 1-10, 11, 15, 17, 23, 25, 29, 31**
- 4.2 Mean Value Theorem **pg 192: 15-24, 39**
- 4.2 Increasing/Decreasing Behavior **pg 192: 3, 5, 9, 11, 13 (b and c parts only), 36, 37**
- 4.3 Relative Extrema **pg 203: 9, 11, 15, 17, 19, 23, 25, 27 (a, b and e parts only)**
- 4.3 Concavity / Inflection Points **pg 203: 9, 11, 15, 17, 19, 23, 25, 27 (c, d, and f parts only)**
- 4.3 Graphs of f , f' , and f'' **pg 203: 1-6, 31, 34, 41, 47, 48**

Assignments are subject to change in class.