

Honors Calculus

Graphical Analysis

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

- I can find absolute and relative extreme values of a function.
- I can find the intervals of increase and decrease of a function.
- I can describe the concavity in the graph of a function.
- I can locate points of inflection in the graph of a function.
- I can use limits involving infinity to describe vertical asymptotes and end behavior .

Textbook Assignments

The exercises below are from *Calculus of a Single Variable, 7th edition*, by Larson, Hostetler, and Edwards. These specific problems are the bare minimum that should be completed after each lesson, but you are encouraged to attempt more if needed.

- 3.1 Extreme Values **pg 165: 7-10, 19, 21, 23, 25, 29, 51-54, 58**
- 3.3 Increasing/Decreasing Behavior **pg 181: 3-10, 62**
- 3.3 First Derivative Test **pg 181: 17, 21, 23, 27, 29, 31, 58**
- 3.4 Concavity **pg 189: 1, 3, 4, 5, 7, 8, 9**
- 3.4 Points of Inflection **pg 189: 15, 17, 19, 25, 69**
- 3.4 Second Derivative Test **pg 189: 27, 31, 35, 37, 67**
- 3.5 Limits at Infinity **pg 199: 15-31 (odd), 84**
- 3.5 Asymptotes and End Behavior **pg 199: 49-65 (odd; find asymptotes only)**
- 3.6 Curve Sketching **pg 208: 7, 15, 21, 23**