Analysis Honors Assignments
October 2008

Power Point: http://www.geocities.com/brosepowerpoint/graphing_using_derivatives.ppt

Mon	**10/27**	**19**	**Page 215 #1,3 & Worksheet #19**	**First Derivative Test and Graphing**
Tues	**10/28**	**20**	**Page 215 #7,9 & Worksheet #20**	**First and Second Derivative Tests Absolute Max and Min**
Wed	**10/29**	**21**	**Page 194 #47 & Worksheet #21**	**Review for Graphing Exam Absolute Max and Min**
Thur	**10/30**	**22**	**Page 194 #1–10 & Worksheet #22**	**Review for Graphing Exam Read Extreme Value Theorem on Page 188**
Fri	**10/31**	**23**	**Worksheet #23**	**Exam 4 – Derivatives and Graphing Exam !!!!! HAPPY HALLOWEEN !!!!!**

Notes:

1st Derivative:

1. f is increasing when $f'(x) > 0$

2. f is decreasing when $f'(x) < 0$

3. Critical Point if $f'(x) = 0$ or $f'(x) = \text{DNE}$

a) Relative Max if $f'(x) > 0$**, then** $f'(x) < 0$

b) Relative Min if $f'(x) < 0$**, then** $f'(x) > 0$

c) Terrace (or Saddle) Point if $f'(x)$ **doesn't change sign**

2nd Derivative:

1. Concave Up if $f''(x) > 0$

2. Concave Down if $f''(x) < 0$

3. Inflection Point if $f''(x)$ **changes signs.**

Absolute Max/Min

Absolute Maximums or Minimums must occur at:

1. **A relative Max/Min or**
2. **At an endpoint.**

To that end, for Absolute Max/Min:

1. **Find relative Max/Min.**
2. **Find y–values of endpoints.**
3. **Compare y–values.**
4. **Answer the question …**
   - **Do they want the *location* of max/min (x–value) or**
   - **Do they want the max/min *value* (y–value)**
5. **Make sure that max/min is in interval !!!!!**