

Math 16A
Vogler
Instructions for DETAILED GRAPHING

- 1.) State the DOMAIN of the function.
- 2.) Take the FIRST derivative and set up a SIGN CHART for $f'(x)$. Clearly mark the solutions to $f'(x) = 0$ and their y -values, and identify all RELATIVE and ABSOLUTE maximum and minimum values.
- 3.) State the OPEN INTERVALS on which f is INCREASING and DECREASING.
- 4.) Take the SECOND derivative and set up a SIGN CHART for $f''(x)$. Clearly mark the solutions to $f''(x) = 0$ and their y -values, and identify all INFLECTION POINTS.
- 5.) State the OPEN INTERVALS on which f is CONCAVE UP and CONCAVE DOWN.
- 6.) Determine all x -INTERCEPTS and y -INTERCEPTS.
- 7.) If appropriate, determine all HORIZONTAL ASYMPTOTES (H.A.).
- 8.) If appropriate, determine all VERTICAL ASYMPTOTES (V.A.).
- 9.) DRAW a rough SKETCH of the graph of $y = f(x)$ and CLEARLY identify the coordinates of all important points on the graph.