

Math 142, 511, 516, 517, Spring 2010

Lecture 13.

3/4/2010

Homework #16 (Section 4-7) is **due Thursday, March 4, 11:55 PM.**

Homework #17 (Section 5-1)
Homework #18 (Section 5-2)
are due Monday, March 8, 11:55 PM.

Homework #19 (Section 5-4)
Homework #20 (Section 5-5)
are due Thursday, March 11, 11:55 PM.

Section 5-4 **Curve-sketching techniques.**

Graphing strategy.

1. Analyze $f(x)$.
 - 1.1 Find the domain of f .
 - 1.2 Find the intercepts.
 - 1.3 Find asymptotes.
2. Analyze $f'(x)$.
 - 2.1 Find all critical value of $f(x)$.
 - 2.2 Construct a sign chart for $f'(x)$.
 - 2.3 Determine the intervals on which f is increasing and decreasing.
 - 2.4 Find local maxima and minima.
3. Analyze $f''(x)$.
 - 3.1 Find all partinion numbers of $f''(x)$.
 - 3.2 Construct a sign chart for $f''(x)$.
 - 3.3 Determine the intervals on which f is concave upward and concave downward.
 - 3.4 Find inflection points.
4. Sketch the graph of f .

Example Sketch the graph of the function $f(x) = \frac{1}{3 - 2x - x^2}$.