

Problem Set 11 Real Analysis 1 Due 12/6/2004

Each problem is worth 5 points. Clear and complete justification is required for full credit. You are welcome to discuss these problems with anyone and everyone, but must write up your own final submission without reference to any sources other than the textbook and instructor.

1. Suppose that we had proved the Mean Value Theorem without using (or previously proving) Rolle's Theorem. Show how Rolle's Theorem can be deduced as a corollary to the M. V. T.
2. The Constant Value Theorem: If $f'(x) = 0$ for all $x \in (a, b)$, then f must be constant on (a, b) .
3. Do #7 in §6.2.
4. Prove Theorem 6.3.1 (b).