Fake Quiz 2   Real Analysis 1   11/18/2002

Each problem is worth 0 points, this time at least.

1. State the definition of the limit of a function f:ℝ→ℝ at a point a.

2. State the definition of the limit of a function f:ℝ→ℝ as x approaches infinity.

3. State the definition of continuity of a function f:ℝ→ℝ at a point a.

4. State the definition of the derivative of a function f:ℝ→ℝ at a point a.

5. State the Intermediate Value Theorem.

6. State Rolle's Theorem.

7. State the Mean Value Theorem.

8. Prove that $\lim\limits_{x \to \infty} \dfrac{1}{x^2}$ exists.

9. Give an example of a function f:[0,1]→ℝ which is discontinuous at every point but for which |f(x)| is differentiable at every point.

10. Prove that if f:ℝ→ℝ and g:ℝ→ℝ are both continuous functions, then (f+g) is also continuous.