

MATH 241: ANALYSIS IN SEVERAL REAL VARIABLES I  
QUICK RESPONSE #5

Name:

**Problem 1.** Prove using the Weierstrass  $M$ -test that the function

$$f(x) = \sum_{n=1}^{\infty} \frac{1}{1 + n^2 x}$$

is continuous for  $x \geq 1$ .