

MATH 10250 Written Homework 2

July 7, 2018

NAME:

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1. Deduce the quotient rule from the product rule.

Hint: Express $\frac{f(x)}{g(x)}$ as $f(x)[g(x)]^{-1}$ and differentiate the second. (Don't forget the Chain Rule here!)

2. Let $f(x)$ be some function. What is the difference between saying “ $\lim_{x \rightarrow a} f(x)$ exists” and “ $f(x)$ is continuous at $x = a$ ”? Give an example of a function where the first statement is true, but the second is not. (A sketch of the function is fine.)