

Show all work to get full credit of this 10 point quiz. You may choose whatever problems you'd like, but there is a maximum of 10 points possible. You may choose either the 5 2-point problems or the 10 point problem on the back. Specify your choice by circling the problem you want graded. Also please circle the section that you are in. All calculators are allowed, except for phones.

- 1.** (*2 points*) Find  $f'(x)$  for

$$f(x) = \ln(x)$$

- 2.** (*2 points*) Find  $f'(x)$  for

$$f(x) = 7x^3$$

- 3.** (*2 points*) Find  $f'(x)$  for

$$f(x) = 10e^x$$

- 4.** (*2 points*) Find  $f'(x)$  for

$$f(x) = xe^x$$

- 5.** (*2 points*) Find  $f'(x)$  for

$$f(x) = \frac{e^x}{x}$$

**6.** (*10 points*) Use the chain rule (and possibly product or quotient) to find  $f'(x)$  where

$$f(x) = \frac{e^{5x}}{x^2}$$