

## Math 190 Quiz 3: Friday Oct 23

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*The quiz is 20 minutes long and has two questions. No calculators or other aids are permitted. Show all of your work for full credit.*

### Questions:

1. (a) Using the limit definition of the derivative (and not any other method) find the derivative of

$$f(x) = \frac{1}{3x}.$$

- (b) Now find the derivative of  $f(x)$  again but using a different method of your choosing. State which method you are using.
2. Find the slope of the tangent line to

$$g(x) = \frac{1}{2}x^3e^x$$

at the point  $x = 2$ .