QUIZ 8 - MATH 112

Friday, April 7
George Voutsadakis

YOUR NAME:_____

Read each problem **very carefully** before starting to solve it and do only what is asked. Each problem is worth around 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

1. [4 points] Compute the derivatives:

$$\left[\frac{\ln x}{x-1}\right]' =$$

$$\left[x \ln\left(x^2 + 1\right)\right]' =$$

2. [4 points] Find an equation for the tangent line to $f(x) = x^3 e^x$ at $x = 1$ (please, do not use decimals, but leave e's in the answer).

3. [4 points] Compute the integral

$$\int \left(12x^3 + 6x - \frac{1}{\sqrt[3]{x}}\right) dx$$