Name:

Math 116 Quiz 1

January 8, 2020

Directions: WRITE YOUR NAME ON THIS QUIZ! Except where indicated, merely finding the answer to a problem is not enough to receive full credit; you must show how you arrived at that answer. DO NOT convert irrational numbers such as $\sqrt{3}$ or π into decimal approximations; just leave them as they are.

1) (7 points) Find the first derivative of $f(x) = \ln(x^4)\cos(x)$.

2) (7 points) Determine the value of $\int_0^2 x^2 e^{x^3+1}\, dx$.

3) (11 points) Evaluate $\lim_{x \to 0} \frac{\sin^2(3x)}{7x^2}$. If you use l'Hôpital's rule, indicate where you do so.