

Math 1450, Honor Calculus Practice 2, Fall 2015.

September 4, 2015

PSID: _____ Name: _____

1. Find a formula for the inverse of the function $f(x) = \frac{4x - 1}{2x + 3}$.

2. Simplify the expression $\sin(\tan^{-1}(x))$.

3. Prove that $\lim_{x \rightarrow 0} x^4 \cos\left(\frac{2}{x}\right) = 0$.

4. Find the limit $\lim_{x \rightarrow 0^+} \left(\frac{1}{x} - \frac{1}{|x|}\right)$ if it exists. If not, explain why?