

### Quiz 3

Math 102, Term 172

NAME:

ID:

**Problem 1.** Find the average value of  $f(x) = x^2 \sin^2 x$  on  $[0, \pi^2]$ .

**Problem 2.** Find the volume of the solid obtained by rotating the region enclosed by  $y = \tan^{-1} x$ ,  $0 \leq x \leq 1$  around the  $y$ -axis.