

Math 0230

Quiz 3

Fall 2014

Your name: _____

Time: 20 minutes

Your TA's name: _____

No calculators, no notes, no books are permitted.

SHOW ALL WORK (no work = no credit). Write neatly. Simplify your answers.

1. [5 points] Evaluate the integral $I = \int_0^4 \frac{x}{x-1} dx$.

2. [5 points] Use the method of cylindrical shells to find the volume generated by rotating the region bounded by the curves $y = x^3$, $y = 0$, $x = 1$ about the axis $x = 2$.

bonus problem [5 points extra]

A vertical plate of the shape of right triangle with sides 4 m and 6 m is partially submerged in water. Find the hydrostatic force against the plate.

Keep ρ and g in your answer.

