Student ID:

Student Name:

Serial Number:

Math 102, Section 1
Summer 2017, Term 163
Instructions: Show Your Work!

Quiz 2
Version A

1. (4 pts) Sketch the region enclosed by the curves

$$y = \tan x, \quad y = 2\sin x, \quad -\frac{\pi}{3} \leq x \leq \frac{\pi}{3}$$

and find its area.

2. (3 pts) Set up (BUT DO NOT EVALUATE) an integral for the volume of the solid obtained by rotating the region bounded by $y = x^2, y = 6x - 2x^2$ about $x = -1$.

3. (3 pts) Find all numbers b such that the average value of $f(x) = \sqrt{x}$ on the interval $[0, b]$ is 6.

Student ID:

Student Name:

Serial Number:

Math 102, Section 4
Summer 2017, Term 163
Instructions: Show Your Work!

Quiz 2
Version B

1. (4 pts) Sketch the region enclosed by the curves

$$y = \cos \pi x, \quad y = 4x^2 - 1$$

and find its area.

2. (3 pts) Set up (BUT DO NOT EVALUATE) an integral for the volume of the solid obtained by rotating the region bounded by $x = -3y^2 + 12y - 9$, $x = 0$ about $x = -1$.

3. (3 pts) Let $f(x) = 3x^2 - 2ax + b$, where $a \neq 1$. Find the value of b if the average value of f over the interval $[1, a]$ is 4