Student ID:

Student Name:

Serial Number:

Math 201, Section 12
Fall 2016, Term 161

Quiz 6
Version A

Instructions: Show Your Work!

1. (5 pts) Use a double integral to find the region enclosed by both of the cardioids

$$r = 1 + \cos(x), \quad \text{and} \quad r = 1 - \cos(x).$$

2. (5 pts) Use polar coordinates to evaluate

$$\int_1^2 \int_0^{\sqrt{2x-x^2}} \sqrt{x^2+y^2}\, dy dx.$$

3. (5 pts) Use a triple integral to find the volume of the solid enclosed by the paraboloids $y = x^2 + z^2$ and $y = 8 - x^2 - z^2$.

Student ID:

Student Name:

Serial Number:

Math 201, Section 15
Fall 2016, Term 161

Quiz 6
Version B

Instructions: Show Your Work!

1. (5 pts) Use a double integral to find the region enclosed by both of the cardioids

$$r = 1 + \cos(x), \quad \text{and} \quad r = 1 - \cos(x).$$

2. (5 pts) Use polar coordinates to evaluate

$$\int_0^1 \int_0^{\sqrt{2x-x^2}} \sqrt{x^2+y^2}\, dy dx.$$

3. (5 pts) Use a triple integral to find the volume of the solid enclosed by the cylinders $x^2 + z^2 = 4$ and the planes $y = -1$ and $y + z = 4$.