Calculus II - Fall 2014 - Mr. Clontz - Quiz 10
Fill in the circle with the correct answer for each of the following problems.

Name: _____ 9am / 10am

1. (10 points) Give an integral which evaluates to the volume of the solid obtained by rotating the shape with bounds $y = 0$, $x = 4$ and $x = y^2$ about the x-axis.
   - ◯ $\int_0^4 \pi x \, dx$
   - ◯ $\int_0^2 \pi x \, dx$
   - ◯ $\int_0^2 2\pi y(y^2) \, dy$
   - ◯ $\int_0^4 2\pi y(y^2) \, dy$
   - ◯ None of these

2. (10 points) Use the Washer Method to give an integral which evaluates to the volume of the solid obtained by rotating the shape with bounds $x = y$ and $x = y^2$ about the x-axis.
   - ◯ $\int_0^1 \pi x^2 - \pi x \, dx$
   - ◯ $\int_0^1 \pi x - \pi x^2 \, dx$
   - ◯ $\int_0^1 \pi x^4 - \pi x^2 \, dx$
   - ◯ $\int_0^1 \pi x^2 - \pi x^4 \, dx$
   - ◯ None of these

3. (10 points) Use the Cylindrical Shell Method to give an integral which evaluates to the volume of the solid obtained by rotating the shape with bounds $x = y$ and $x = y^2$ about the x-axis.
   - ◯ $\int_0^1 2\pi y(y - y^2) \, dy$
   - ◯ $\int_0^1 \pi y(y - y^2) \, dy$
   - ◯ $\int_0^1 2\pi y(y^2 - y)^2 \, dy$
   - ◯ $\int_0^1 \pi(y - y^2)^2 \, dy$
   - ◯ None of these