Calculus II - Fall 2014 - Mr. Clontz - Quiz 12
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 surface area obtained by rotating the curve $y = x$ from $x = 0$ to $x = 3$.
   - ◯ $\int_0^3 \pi x^2 \, dx$
   - ◯ $\int_0^3 2\sqrt{2}\pi x \, dx$
   - ◯ $\int_0^3 \pi(x^2 - y^2) \, dx$
   - ◯ $\int_0^3 2\pi\sqrt{1 + x^2} \, dx$
   - ◯ None of these

2. (10 points) Give an equation which matches the curve drawn below.
   - ◯ $x = 3$
   - ◯ $x^2 + y^2 = 9$
   - ◯ $(x - 2)^2 + y^2 + z^2 = 9$
   - ◯ $x^2 + y^2 + (z - 3)^2 = 4$
   - ◯ None of these

3. (10 points) Give the magnitude $|\vec{\mathbf{v}}|$ of the vector $\vec{\mathbf{v}} = \langle 4, -2, -4 \rangle$.
   - ◯ -2
   - ◯ 0
   - ◯ 3
   - ◯ 4
   - ◯ None of these