

**Quiz #10; Tuesday, date: 04/03/2018**  
**MATH 53 Multivariable Calculus with Stankova**  
**Section #117; time: 5 – 6:30 pm**  
**GSI name: Kenneth Hung**  
**Student name:**

1. Find the volume of the solid enclosed by  $z = x^2 + y^2 - 1$  and the planes  $x = 0$ ,  $y = 0$ ,  $z = 0$  and  $x + y = 1$ .
2. *True / False?* The integral

$$\iint_R f(x, y) dA$$

over the triangular region bounded by the  $x$ -,  $y$ - axes and the line  $x + y = 1$  cannot be rewritten as a double integral using polar coordinates.

3. *True / False?* The transformation from Cartesian coordinates to cylindrical coordinates is given by

$$x = r \cos \theta, \quad y = r \sin \theta, \quad z = h.$$

The Jacobian determinant is  $r$ .