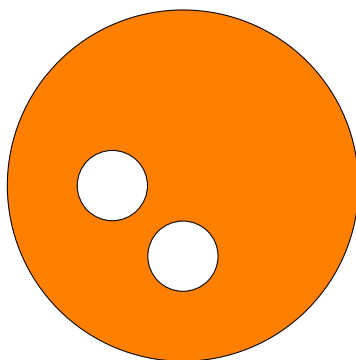


Quiz #13; Tuesday, date: 04/24/2018
MATH 53 Multivariable Calculus with Stankova
Section #114; time: 2 – 3:30 pm
GSI name: Kenneth Hung
Student name:

1. Is there a vector field \mathbf{G} on \mathbb{R}^3 such that $\text{curl } \mathbf{G} = \langle \cos x, \sin y, z \rangle$? Explain.
2. *True / False?* Given a vector field $\mathbf{F} = \langle P, Q \rangle$ with $\frac{\partial Q}{\partial x} = \frac{\partial P}{\partial y}$ over the region given below.



Suppose the big circle is C_1 and the small circles are C_2 and C_3 , all counterclockwise, then

$$\int_{C_1} \mathbf{F} \cdot d\mathbf{r} = \int_{C_2} \mathbf{F} \cdot d\mathbf{r} + \int_{C_3} \mathbf{F} \cdot d\mathbf{r}.$$

3. *True / False?* Surface of revolution of a positive differentiable function is always smooth.