Quiz #13; Tuesday, date: 04/24/2018
MATH 53 Multivariable Calculus with Stankova
Section #117; time: 5 – 6:30 pm
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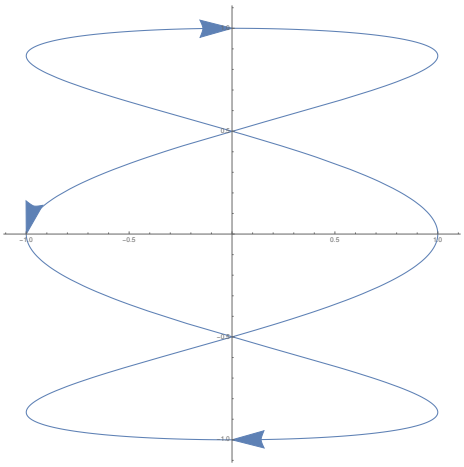
Student name:

1. Find the area of the part of the paraboloid $z = x^2 + y^2$ that lies within the cylinder $x^2 + y^2 = 1$.

2. *True / False?* Recall that the integral

$$\int_C \frac{-y\mathbf{i} + x\mathbf{j}}{x^2 + y^2} \cdot d\mathbf{r} = 2\pi$$

for any positive oriented simple closed path that encloses the origin. The integral along one loop of the following path is also 2π.



3. *True / False?* For any single functions f, g, h that are smooth and have continuous derivatives, there is a vector field $\mathbf{G}$ such that $\operatorname{curl} \mathbf{G} = \langle f'(y), g'(z), h'(x) \rangle$.