

Name: _____

- No electronic devices are allowed. You must show your work to obtain credit.
- You may use the back if necessary. Please indicate clearly if you do so.

1. (5 points) Calculate the iterated integral:

$$\int_0^1 \int_{x^2}^x (1+y) dy dx.$$

2. (5 points) Use polar coordinates to find the volume of the solid under the cone $z = \sqrt{x^2 + y^2}$ and above the half-disk $x^2 + y^2 \leq 4$, $y \geq 0$. (Possible hint: draw a picture of the half-disk)