

**Quiz 5**  
9 July 2024

Answer the questions in the spaces provided. **Show all of your work and circle the answer you would like to have graded for each question.**

Name: \_\_\_\_\_

1. Let  $D$  be the region bounded by the line  $y = x - 1$  and the parabola  $y^2 = 2x + 6$ . Sketch  $D$  in the  $xy$ -plane and then **setup** an integral to evaluate

$$\iint_D xy \, dA.$$

2. Find the volume of the solid  $S$  **in the first octant** that is bounded by the surface  $x^2 + 2y^2 + z = 16$  and planes  $x = 2$  and  $y = 2$ .