Consider the two curves $y = (x - 1)^2 + 1$ and $0 = y^2 - x - 2(y - 1)$.

1. (1 Point) Draw the two curves in the xy-plane.

2. (2 Points) Compute the intersection points.

3. (2 Points) Compute the area between the two curves.

4. (2 Points) Compute the volume of the solid obtained by rotating the area in 3 around the x-axis.

5. (2 Points) Compute the volume of the solid obtained by rotating the area in 3 around the y-axis.

6. (1 Point) Are the two volumes in 4 and 5 equal? Why or why not?