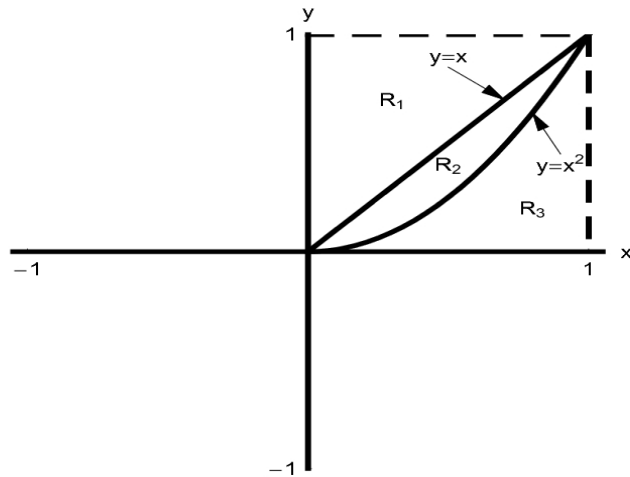


**AP Calculus AB
Worksheet: Volumes**

Let R_1 be the region in the first quadrant bounded by $y = x$, the y -axis, and the line $y = 1$. Let R_2 be the region in the first quadrant bounded by $y = x^2$ and $y = x$. Let R_3 be the region in the first quadrant bounded by $y = x^2$, the x -axis, and the line $x = 1$.

Write an integral expression for the volume of the solid described. Do not evaluate.

1. The volume of the solid generated by revolving R_3 about the x -axis.
2. The volume of the solid generated by revolving R_2 about the x -axis.
3. The volume of the solid generated by revolving R_1 about the x -axis.