

12. Let R be the plane region bounded by $y = x^2$ and $y = 2 - x$.

A. Sketch R and find its area. (10 points)

B. Set up, but do not evaluate, an integral that represents the volume of the solid obtained by rotating R about the x -axis. (7 points)

C. Set up, but do not evaluate, an integral that represents the volume of the solid obtained by rotating R about the line $x = 2$. (7 points)