

**Find the volume of the solid generated by revolving the given region about the given axis. Use a piece of graph paper to graph each region.**

1. The region above the curve  $y = x^3$ , under the line  $y = 1$  and between  $x = 0$  and  $x = 1$  about the x-axis.
2. Revolve the above region about the y-axis.
3. The region below the line  $y = 2x$ , above the x-axis, and between  $x = 0$  and  $x = 1$  about the x-axis.
4. Revolve the above region about the y-axis.
5. The region between the parabolas  $y = x^2$  and  $x = y^2$  about the x-axis.
6. Revolve the above region about the y-axis.