1. Find the volume of the solid obtained by revolving the region bounded by the curve $y = e^x$ and the lines $y = 0$, $x = 0$, and $x = 2$ about the $x$-axis.

2. Find the volume of the solid generated by revolving the region in the first quadrant bounded by the curve $y = x^2$ and the line $y = 4$ about the $y$-axis.

3. Find the volume of the solid generated by revolving the region bounded by the curves $y = x^3$ and $y = \sqrt{x}$ about the $x$-axis.
4. Find the volume of the solid generated by revolving the region used in question 3 about the y-axis.

5. Let \( R \) be the region bounded by the curve \( y = x^2 \) and the lines \( y = 0 \) and \( x = 2 \). Set up integrals for the volumes of the solids generated by revolving \( R \) about

   a. the x-axis
   b. the y-axis
   c. the line \( y = 5 \)
   d. the line \( x = 3 \)