

Simple Solids of Revolution

Directions: Find each volume.

1. Find the volume of the solid generated by revolving $f(x) = \sqrt{2x}$ from $x = 0$ to $x = 2$ around the x-axis.
2. Find the volume of the solid generated by revolving $f(x) = \sqrt[4]{x}$ from $x = 0$ to $x = 9$ around the x-axis.
3. Find the volume of the solid generated by revolving the first arch of $f(x) = \sin x$ in the first quadrant around the x-axis.
4. Find the volume of the solid generated by revolving the region bounded by the x-axis, $f(x) = \frac{1}{x}$, $x = 1$, and $x = 2$ around the x-axis.
5. Find the volume of the solid generated by revolving the region between $y = 6 - x^2$ and $y = 2$ around the x-axis.
6. Find the volume of the solid generated by revolving the region between $y = x$ and $y = -x^2 + 4x - 2$ around the x-axis.
7. Find the volume of the solid generated by revolving the region between $f(x) = 2 + \sin x$ and $f(x) = 1 - \cos x$ from $x = -\frac{\pi}{2}$ to $x = \pi$ around the x-axis.