Example 1

Find the volume of the solid obtained by rotating the region bounded by $y = x + 1$, $y = 0$, $x = 0$, and $x = 2$ about the $x$-axis.
Example 2
Find the volume of the solid obtained by rotating the region bounded by $y = 6 - x^2$, and $y = 2$, about the $x$-axis.
Example 3

Find the volume of the solid obtained by rotating the region bounded by $y = x^3$, $y = 1$, and $x = 2$, about $y = -3$. 
Example 4

Find the volume of the solid obtained by rotating the region bounded by $2x = y^2$, $x = 0$, and $y = 4$, about the $y$-axis.
Example 5

Find the volume of the solid obtained by rotating the region bounded by \( xy = 1, \ y = \frac{1}{2}, \ x = 1, \) and \( x = 2 \) about \( x = -1. \)
Example 6

Find the volume of the solid obtained by rotating the region bounded by $xy = 1$, $y = 0$, $x = 1$, and $x = 4$ about the $y$-axis.