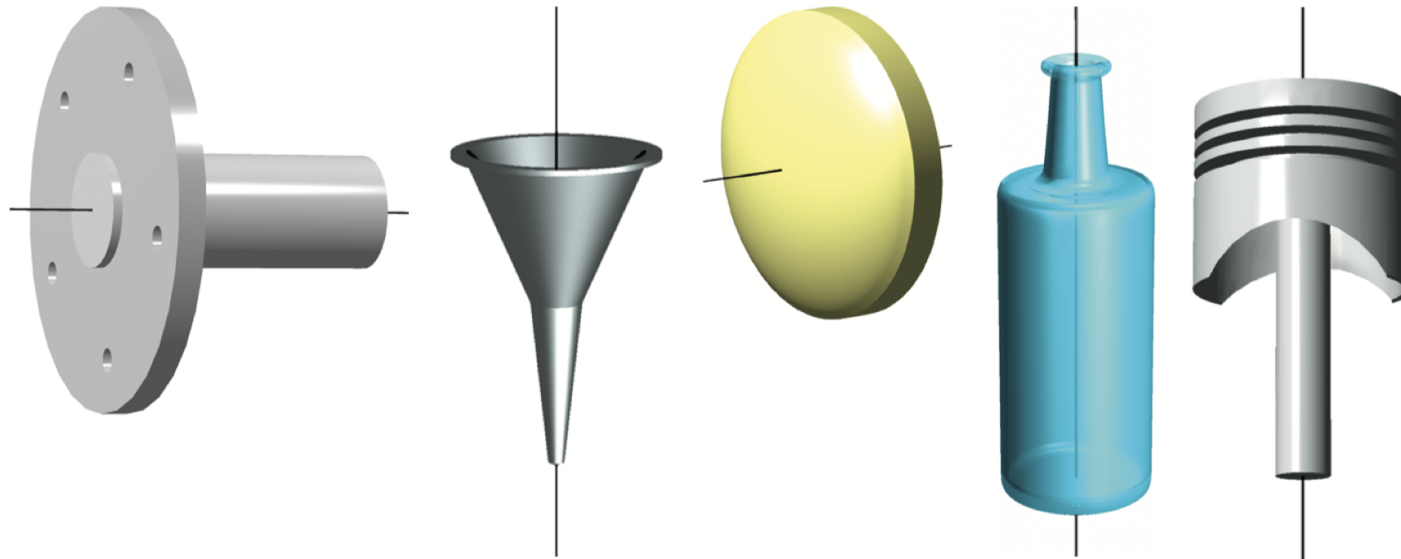


# How is the disk method used to find the volume of a solid of revolution?

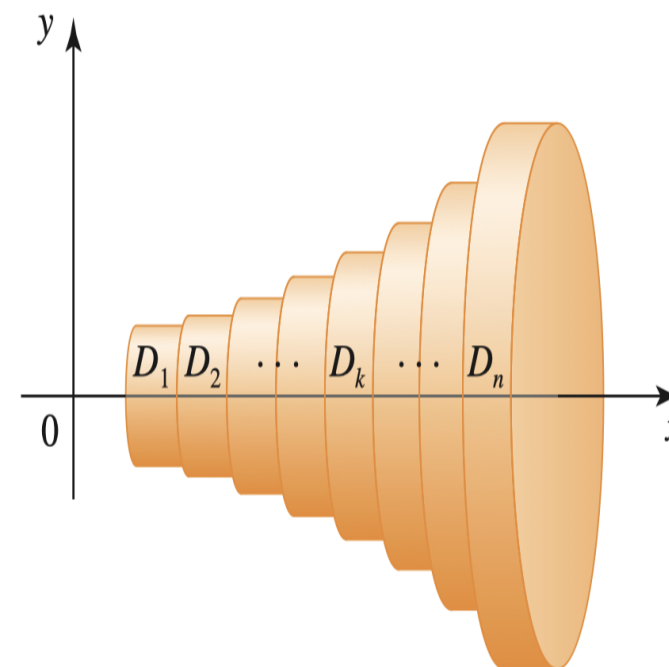
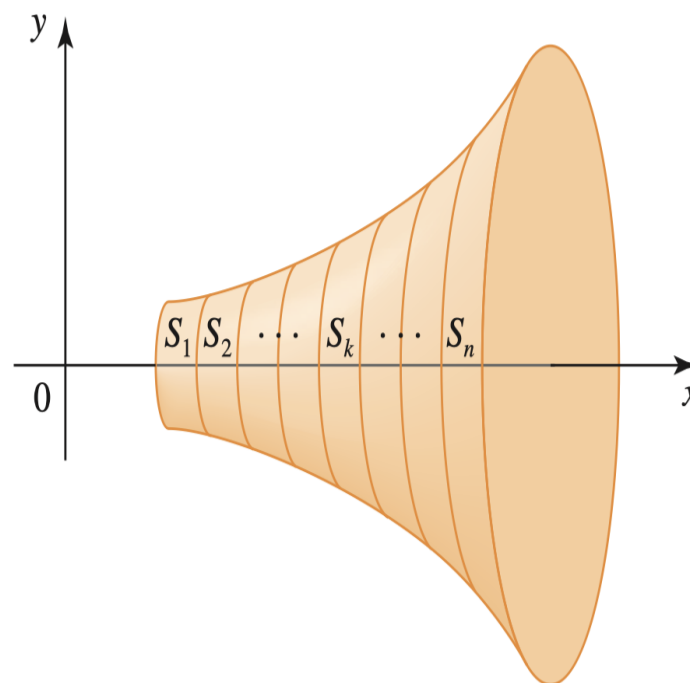
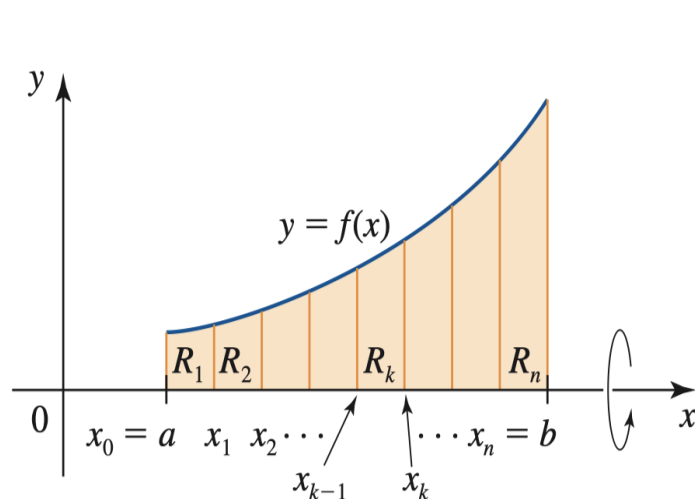
## Quick Check

Why do we care about knowing the volume of solids?



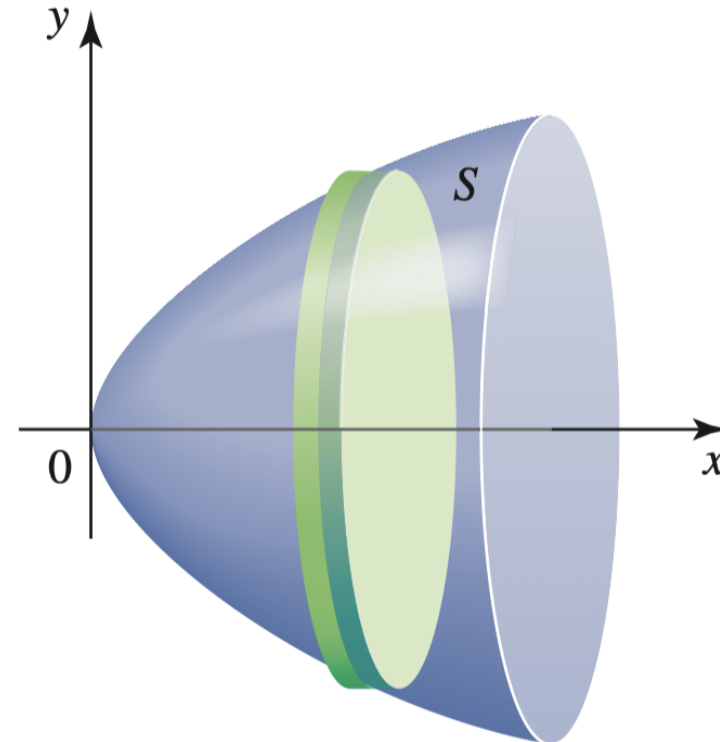
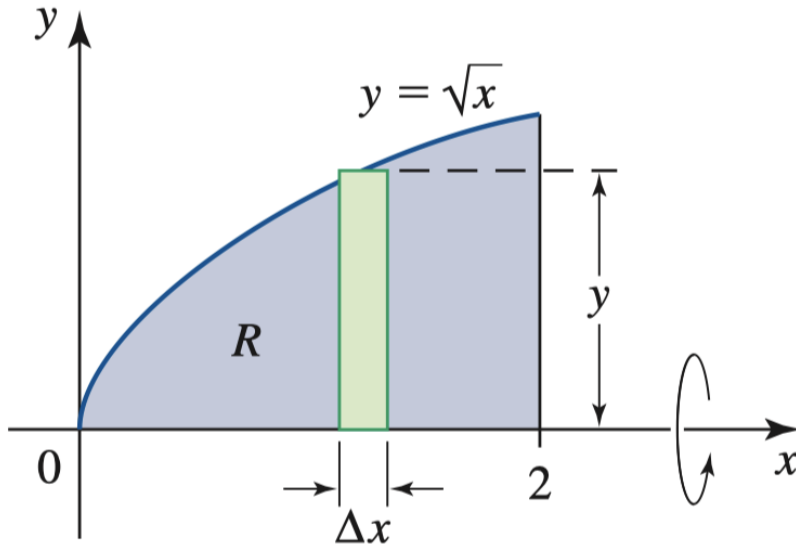
# Watch video on woodturning and pottery wheel

Solids created via revolution



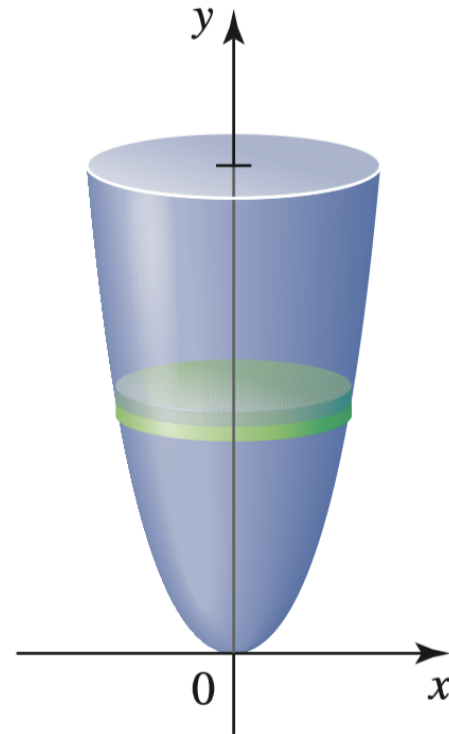
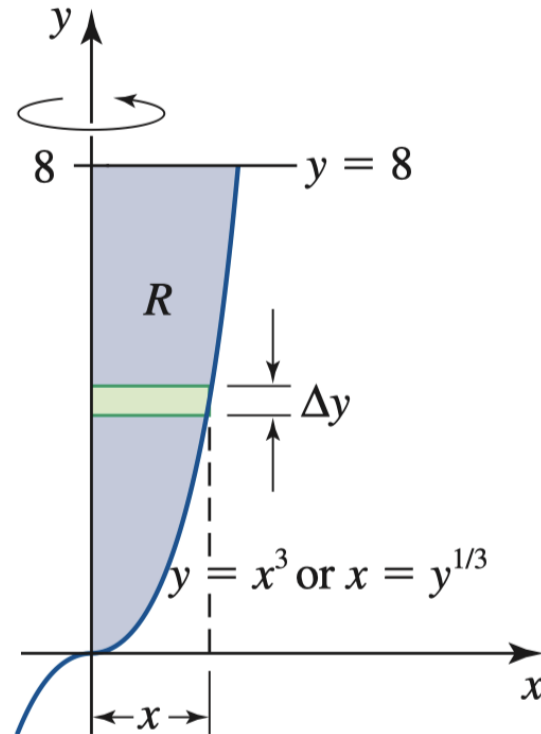
# The Disk Method

Find the volume of the solid obtained by revolving the region under the graph of  $y = \sqrt{x}$  on  $[0, 2]$  about the  $x$ -axis.



## 😵 Moving around the $y$ -axis

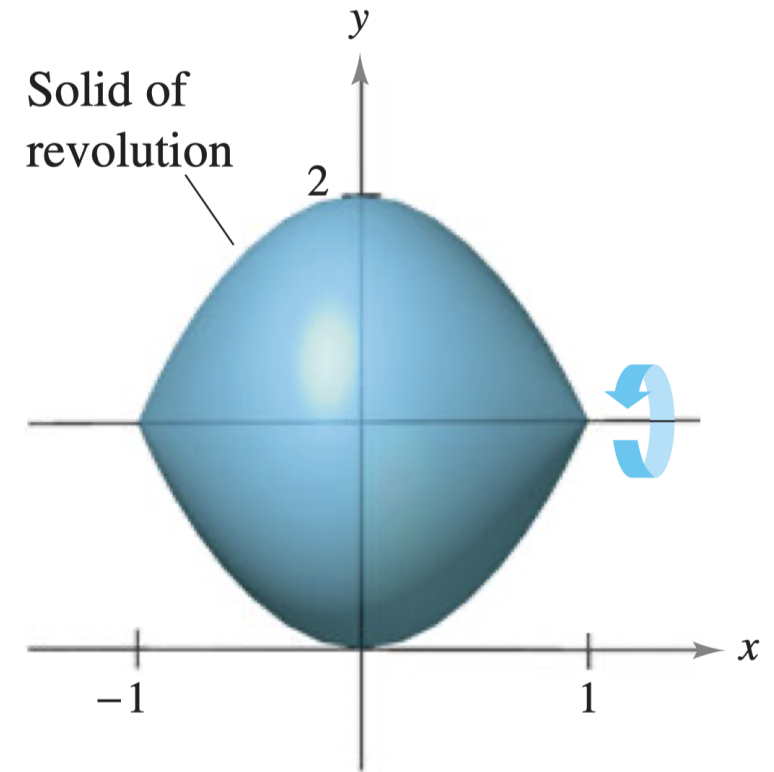
Find the volume of the solid obtained by revolving the region bounded by the graphs of  $y = x^3$ ,  $y = 8$ , and  $x = 0$  about the  $y$ -axis.



## Revolving About a Line That Is Not a Coordinate Axis

---

Find the volume of the solid formed by revolving the region bounded by  $f(x) = 2 - x^2$ ,  $g(x) = 1$ , and the line  $y = 1$ .



## Practice

Find the volume of the solid that is obtained by revolving the region about the indicated axis or line.

