

Section 6.2: Volumes

- (1) In this section, we use integration to find the volume of regions formed by rotating area under curves around a line or volumes of solids with known cross section. Describe how we find the volume of a solid formed by rotating the area under a curve around the x -axis. What are the cross sections? Where do cylinders come in? Where does integration come in?

- (2) How does the process change if we rotate the curve around the y -axis instead? What about if we rotate around a line parallel to the x - or y - axis?

(3) How does the process change if the region we are rotating does not touch the line we are rotating around?

(4) How do you find the volume of a solid if you know shape its cross sections are? How does the process change if the cross sections are perpendicular to the x -axis vs the y -axis?