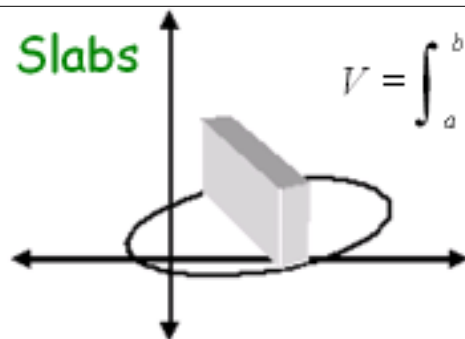


Sec 7.3:
Finding Volumes
(Day 1)

Volume of Slabs



$$V = \int_a^b (\text{Area of Cross Section}) dx$$

The base of a solid is a circle of radius 3. Find the volume of the solid formed with the given cross sections.

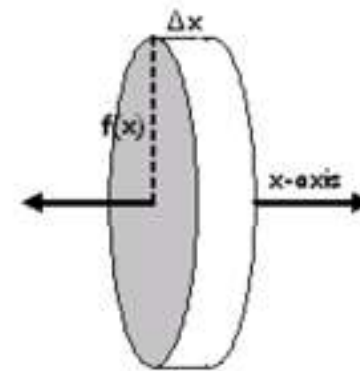
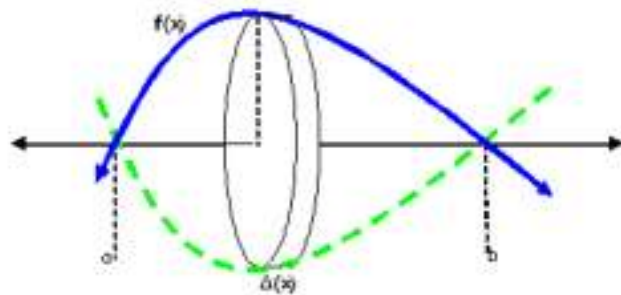
each cross section is a square

each cross section is a semicircle

each cross section is an equilateral triangle

each cross section is an isosceles right triangle with hypotenuse on the x-y plane

Volume of Discs



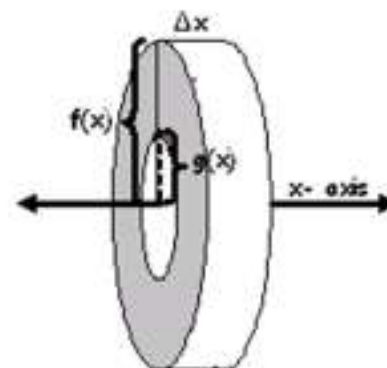
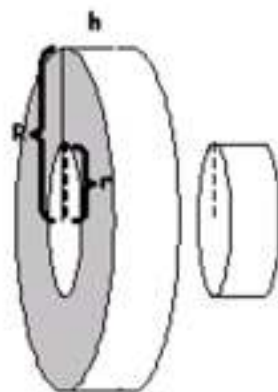
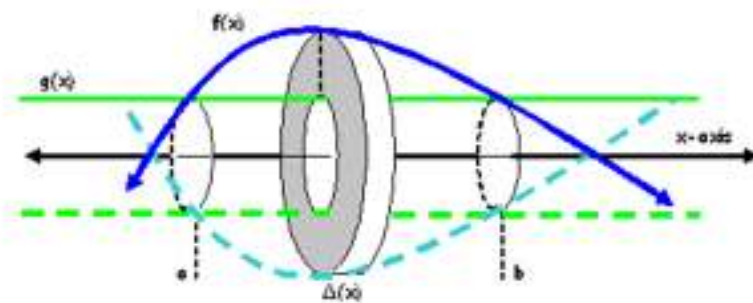
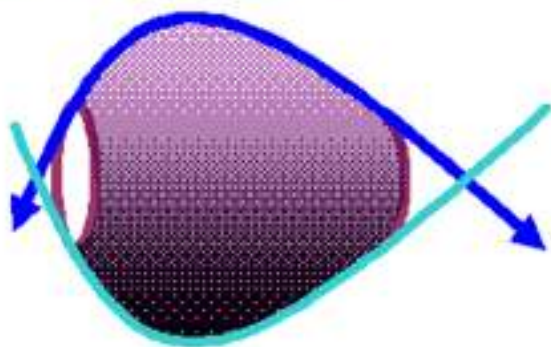
$$V = \int_a^b (\pi r^2) dx = \pi \int_a^b (f(x))^2 dx$$

Sketch the graph and find the volume of the solid formed by revolving the region in the second quadrant bounded by $f(x) = x + 4$

about the x-axis

about the y-axis

Volume of Washers



$$V = \int_a^b (\pi R^2 - \pi r^2) dx$$

Find the volume of the solid formed by revolving the region bounded by the functions below about the x-axis.

$$f(x) = \sqrt{x}$$

$$g(x) = x^2$$