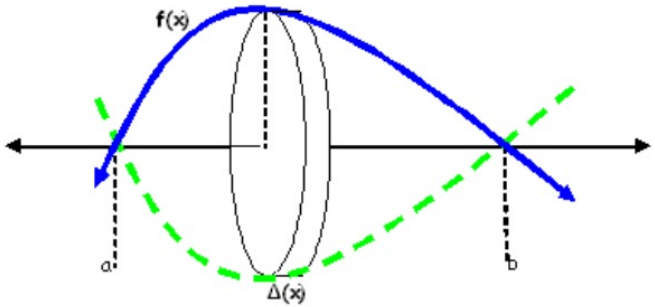
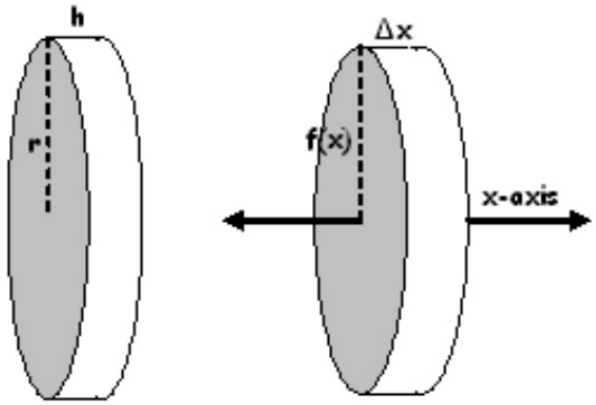
Sec 7.3:
Finding Volumes
of
Discs and Washers

Volume of Discs





Remember to find volume - integrate area!

- **What is the cross section's shape?**
- **What is the formula for it's area?**

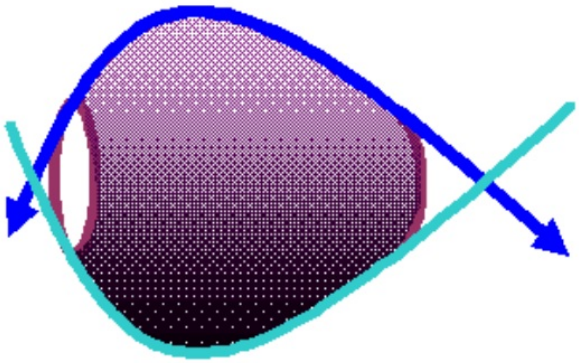
$$V = \int_a^b \left(\pi r^2\right) dx = \pi \int_a^b \left(f(x)\right)^2 dx$$

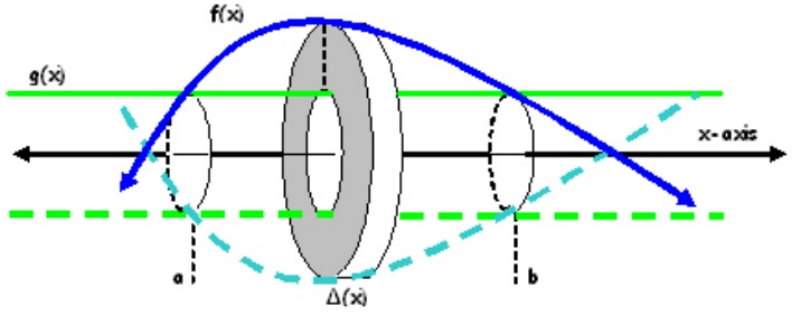
Sketch the graph and find the volume of the solid formed by revolving the region in the second quadrant bounded by $f(x) = x + 4$

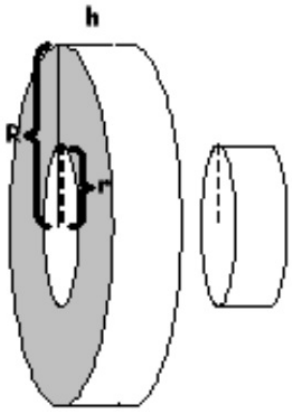
about the x-axis

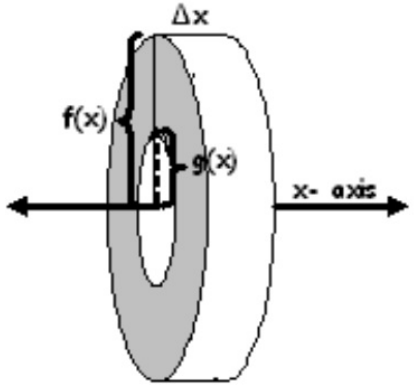
about the y-axis

Volume of Washers









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

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

$f(x) = \sqrt{x}$ $\qquad\qquad$ $g(x) = x^2$