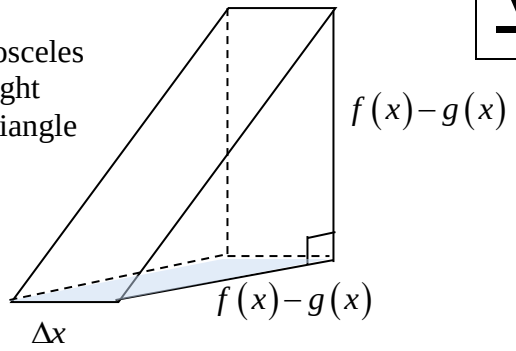
# Volumes on the Base Cross Sections

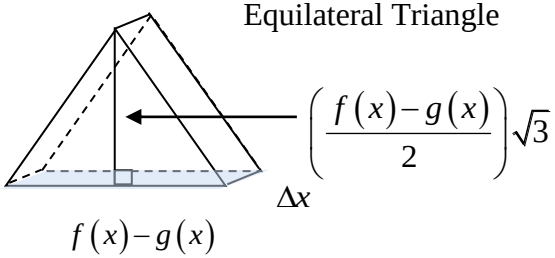
Isosceles Right Triangle




$$V_{\text{slice}} = \frac{1}{2}\left(f(x)-g(x)\right)^2 \Delta x$$

$$V_{\text{solid}} = \int_a^b \frac{1}{2}\left(f(x)-g(x)\right)^2 dx$$

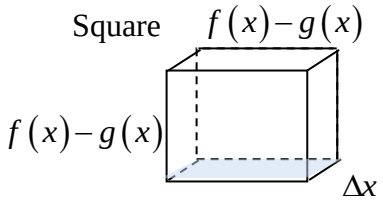
Equilateral Triangle




$$V_{\text{slice}} = \frac{1}{2}\left(f(x)-g(x)\right)\left(\frac{f(x)-g(x)}{2}\right)\sqrt{3}\cdot\Delta x$$

$$V_{\text{solid}} = \int_a^b \frac{1}{2}\left(f(x)-g(x)\right)\left(\frac{f(x)-g(x)}{2}\right)\sqrt{3}\,dx$$

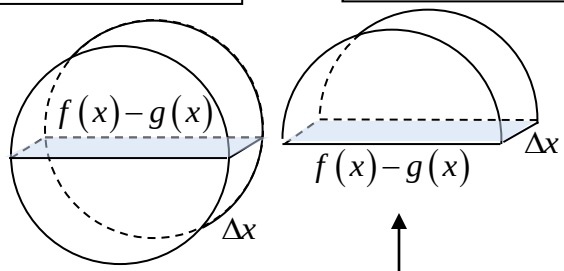
Square




$$V_{\text{slice}} = \left(f(x)-g(x)\right)^2 \Delta x$$

$$V_{\text{solid}} = \int_a^b \left(f(x)-g(x)\right)^2 dx$$

Disk or Semicircle




Disc

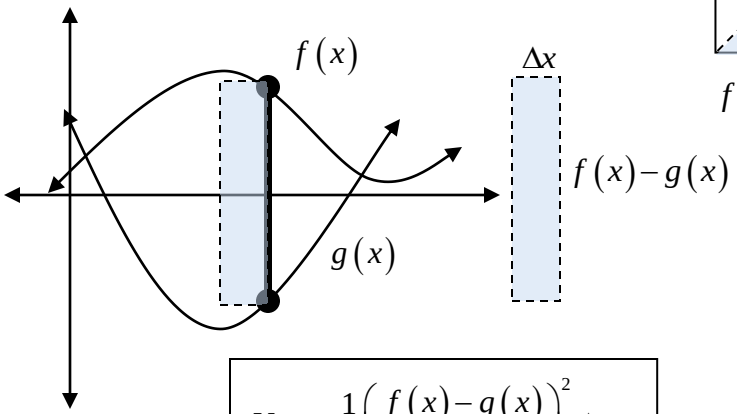
$$V_{\text{slice}} = \pi\left(\frac{f(x)-g(x)}{2}\right)^2 \Delta x$$

$$V_{\text{solid}} = \int_a^b \pi\left(\frac{f(x)-g(x)}{2}\right)^2 dx$$

Semicircle

$$V_{\text{slice}} = \frac{1}{2}\pi\left(\frac{f(x)-g(x)}{2}\right)^2 \Delta x$$

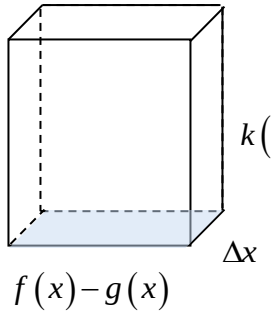
$$V_{\text{solid}} = \int_a^b \frac{1}{2}\pi\left(\frac{f(x)-g(x)}{2}\right)^2 dx$$




$$V_{\text{slice}} = \frac{1}{2}\left(\frac{f(x)-g(x)}{\sqrt{2}}\right)^2 \Delta x$$

$$V_{\text{solid}} = \int_a^b \frac{1}{2}\left(\frac{f(x)-g(x)}{\sqrt{2}}\right)^2 dx$$

Rectangle




$$V_{\text{slice}} = k\left(f(x)-g(x)\right)^2 \Delta x$$

$$V_{\text{solid}} = \int_a^b k\left(f(x)-g(x)\right)^2 dx$$

Isosceles Triangle Hypotenuse in the *x*-*y* plane.