

Fruit Salad Cross Sections



$$\int_a^b A(x) dx$$

$$\int_a^b \frac{1}{2} \pi (r(x))^2 dx$$

$$\frac{1}{2} \pi \int_a^b \left(\frac{y_1 - y_2}{2} \right)^2 dx$$

$$\frac{1}{2} \pi \int_a^b \frac{(y_1 - y_2)^2}{4} dx$$

$$\frac{\pi}{8} \int_a^b (y_1 - y_2)^2 dx$$

semicircle

$$A = \frac{1}{2} \pi r^2$$