

Answers to Volumes of Revolution: Disk Method (ID: 1)

$$1) \pi \int_0^2 (-x^2 + 4)^2 dx \\ = \frac{256}{15}\pi \approx 53.617$$

$$2) \pi \int_0^4 (\sqrt{x})^2 dx \\ = 8\pi \approx 25.133$$

$$3) \pi \int_2^6 (2\sqrt{x+4})^2 dx \\ = 128\pi \approx 402.124$$

$$4) \pi \int_0^{\frac{\pi}{3}} (2\sqrt{\sin x})^2 dx \\ = 2\pi \approx 6.283$$

$$5) \pi \int_{-1}^2 (y^2 + 3)^2 dy \\ = \frac{258}{5}\pi \approx 162.106$$

$$6) \pi \int_3^6 (\sqrt{y+3})^2 dy \\ = \frac{45}{2}\pi \approx 70.686$$

$$7) \pi \int_0^2 (-y^2 + 4)^2 dy \\ = \frac{256}{15}\pi \approx 53.617$$

$$8) \pi \int_{-\frac{\pi}{4}}^{\frac{\pi}{6}} (2\sqrt{\cos y})^2 dy \\ = (2 + 2\sqrt{2})\pi \approx 15.169$$

$$9) \pi \int_{-2}^2 (-x^2 + 4)^2 dx \\ = \frac{512}{15}\pi \approx 107.233$$

$$10) \pi \int_0^2 (x^2)^2 dx \\ = \frac{32}{5}\pi \approx 20.106$$

$$11) \pi \int_0^2 (-y^2 + 4)^2 dy \\ = \frac{256}{15}\pi \approx 53.617$$

$$12) \pi \int_0^4 (\sqrt{y})^2 dy \\ = 8\pi \approx 25.133$$