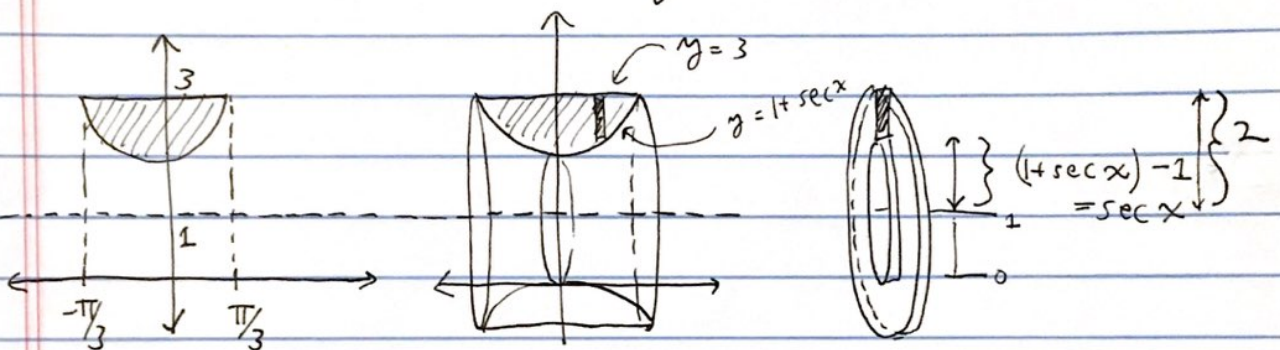


6.2 + 6.3 continued.

Some variations:

Ex: (13) Find the volume of the region bounded by $y = 1 + \sec x$, $y = 3$ rotated around $y = 1$.



$$dV = \pi (2^2 - (\sec x)^2) dx$$

$$V = \int_{-\pi/3}^{\pi/3} \pi (4 - \sec^2 x) dx = 2 \int_0^{\pi/3} \pi (4 - \sec^2 x) dx$$

$$= 2\pi \left[4x - \tan x \right]_0^{\pi/3}$$

$$= 2\pi \left(\frac{4\pi}{3} - \sqrt{3} - (0-0) \right)$$

$$= \boxed{\frac{8\pi^2}{3} - 2\pi\sqrt{3}}$$