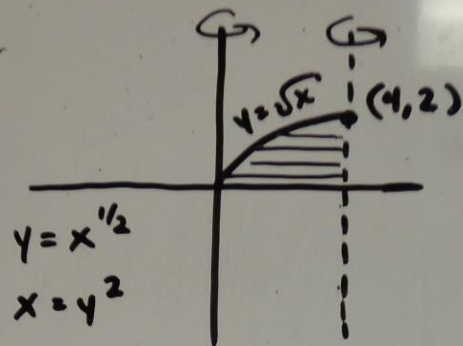


Classroom Solution (Disc Method for Volume)

Problems (b) and (c)

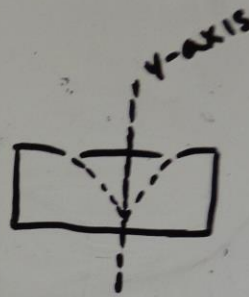


b) Rotated around  $y$ -axis

$$R_{\text{inner}} = y^2$$

$$R_{\text{outer}} = 4$$

$$A = \pi \int_0^2 4^2 - (y^2)^2 dy = \pi \int_0^2 (16 - y^4) dy$$



c) Rotated around  $x = 4$

$$A = \pi \int_0^2 (4 - y^2)^2 dy$$

$$= \pi \int_0^2 (y^4 - 8y^2 + 16) dy$$

