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$$V = ?$$

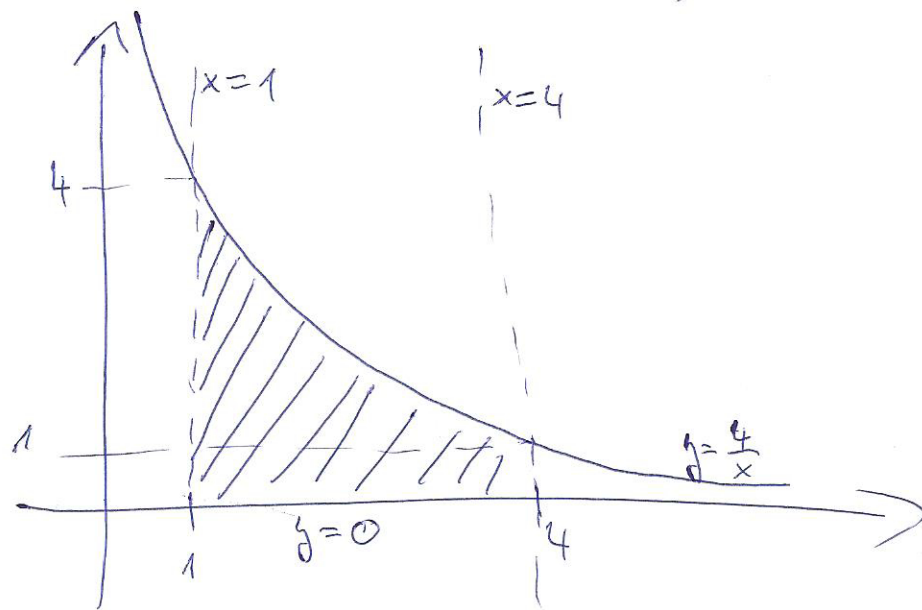
$$P: xy = 4$$

$$x = 1$$

$$x = 4$$

$$y = 0$$

$$y = \frac{4}{x}$$



$$V = \pi \cdot \int_1^4 \left(\frac{4}{x}\right)^2 dx = \pi \cdot \int_1^4 \frac{16}{x^2} dx = \pi 16 \int_1^4 x^{-2} dx =$$

$$= 16\pi \left[\frac{x^{-1}}{-1} \right]_1^4 = 16\pi \cdot (-1) \cdot \left[\frac{1}{x} \right]_1^4 =$$

$$= -16\pi \cdot \left[\frac{1}{4} - \frac{1}{1} \right] = -16\pi \cdot \left(-\frac{3}{4} \right) = \underline{\underline{12\pi}}$$