

Volume Cylindre

$$\text{hauteur} = 20 \text{ cm}$$

$$\text{rayon} = \frac{20}{2\pi} = \frac{10}{\pi}$$



$$\text{Donc } V_{\text{cylindre}} = \pi r^2 \times h = \pi \times \frac{100}{\pi^2} \times 20 = \frac{2000}{\pi} \approx \underline{\underline{636,62 \text{ cm}^3}}$$

$$\text{Volume d'un c\^one} = \pi r^2 \times h / 3$$

$$\text{base du c\^one} : \pi r^2$$

$$r = \frac{\text{P\^erim\^etre}}{2\pi}$$

$$\text{P\^erim\^etre} = \frac{\pi}{2} \times 10 = 5\pi$$

$$= \frac{5\pi}{2\pi} = 2,5 \text{ cm}$$

$$h = \frac{5}{2} \times \sqrt{15} = 9,68 \text{ cm.}$$

$$\text{Donc Volume C\^one} = \pi \times (2,5)^2 \times \frac{9,68}{3} = \cancel{86,55} 63,36$$

$$\text{Volume des 4 c\^ons} : 4 \times 63,36 = \underline{\underline{253,42 \text{ cm}^3}}$$

$$\text{Donc } V_{\text{c\^on}} < V_{\text{cylindre}}$$