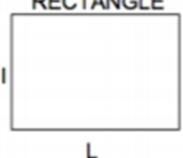
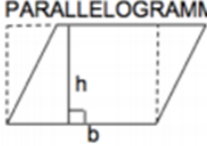
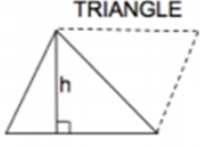

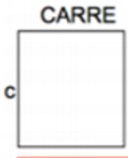
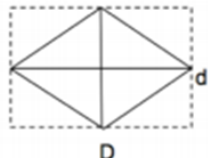
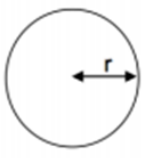


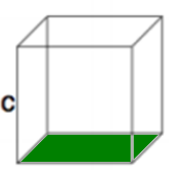
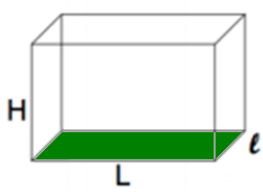
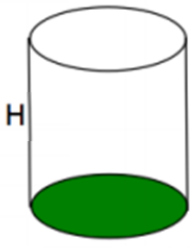
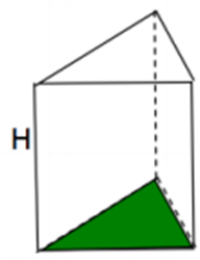
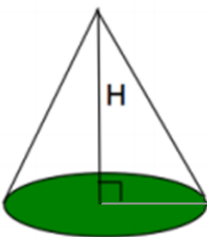
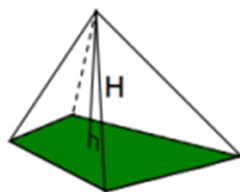
✨ Chapitre 8 ✨

Espace : Aires et volumes

I. Formules d'aires

<p>RECTANGLE</p>  <p>$\mathcal{A} = L \times l$</p>	<p>PARALLELOGRAMME</p>  <p>$\mathcal{A} = b \times h$</p>	<p>TRIANGLE</p>  <p>$\mathcal{A} = \frac{b \times h}{2}$</p>	<p>TRAPEZE</p>  <p>$\mathcal{A} = \frac{B \times h + b \times h}{2}$ $\mathcal{A} = \frac{(B+b) \times h}{2}$</p>
<p>CARRE</p>  <p>$\mathcal{A} = c \times c$ $= c^2$</p>	<p>LOSANGE</p>  <p>$\mathcal{A} = \frac{D \times d}{2}$</p>	<p>DISQUE</p>  <p>$\mathcal{A} = \pi r^2$ (circonférence = $2 \pi r$)</p>	

II. Formules de volumes

<p>CUBE</p>  <p>$\mathcal{V} = c \times c \times c$ $\mathcal{V} = c^3$</p>	<p>PARALLELEPIPEDE</p>  <p>$\mathcal{V} = L \times l \times H$</p>	<p>CYLINDRE</p>  <p>$\mathcal{V} = \text{Aire de la base} \times H$</p>	<p>PRISME</p> 
<p>CONE</p> 	<p>PYRAMIDE</p> 	<p>$\mathcal{V} = \frac{\text{Aire de la base} \times H}{3}$</p>	

III. Exemples d'utilisation

1. Calcul du volume d'une pyramide

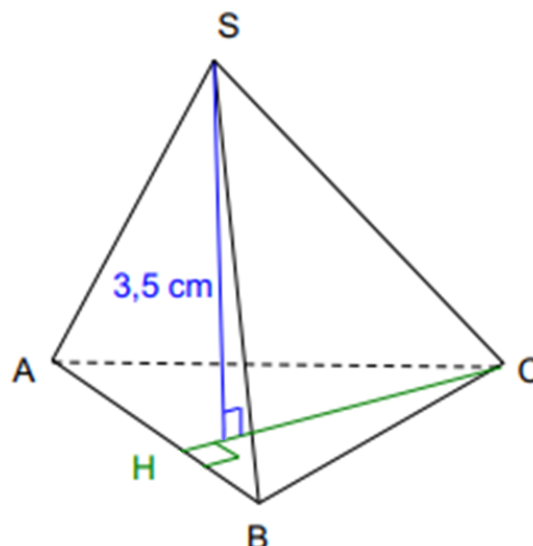
💡 **Méthode 1** : Calcul du volume d'une pyramide

$AB = 4\text{cm}$ et $CH = 5\text{cm}$.

La hauteur de la pyramide est de $3,5\text{cm}$.

Calculer son volume arrondi au centième en cm^3 .

$$V = \frac{1}{3} \times \pi \times R^2 \times \text{hauteur}$$



1. Calcul de l'aire de la base : on détermine l'aire du triangle ABC

$$\begin{aligned} \mathcal{A}_{ABC} &= \frac{AB \times CH}{2} \\ &= \frac{5 \times 4}{2} \\ &= 10 \text{ cm}^2 \end{aligned}$$

2. Calcul du volume de la pyramide :

$$\begin{aligned} V_{SABC} &= \frac{1}{3} \times 10 \times 3,5 \\ &= \frac{35}{3} \text{ cm}^3 \\ &\approx 11,67 \text{ cm}^3 \end{aligned}$$

2. Calcul du volume d'un cône

🍃 **Exemple 1:**

Calculer la valeur exacte puis une valeur approchée à $0,01 \text{ cm}^3$ près du volume d'un cône de révolution de hauteur 5cm et dont le rayon de la base est 2cm .

$$\begin{aligned} V &= \frac{1}{3} \times \pi \times R^2 \times \text{hauteur} \\ &= \frac{1}{3} \times \pi \times 2^2 \times 5 \\ &= \frac{20}{3} \times \pi && \text{valeur exacte} \\ &\approx 20,94 \text{ cm}^3 && \text{valeur approchée au centième} \end{aligned}$$