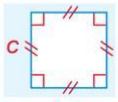
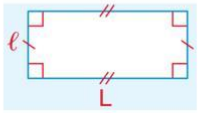
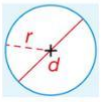
FICHE méthode 4	Rappel des formules de calcul de volume

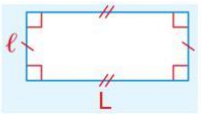
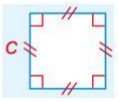
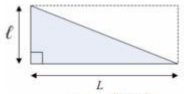
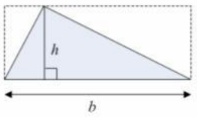
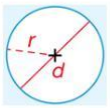
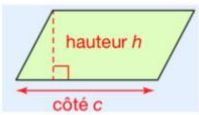
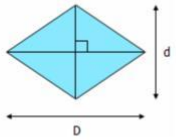
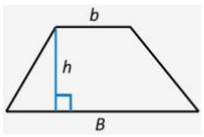
FORMULAIRE PÉRIMÈTRE, AIRES ET VOLUMES

Pour appliquer une formule, les longueurs doivent être exprimées **dans la même unité.**

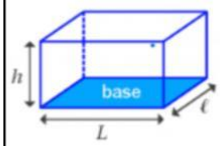
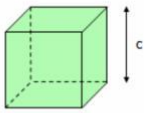
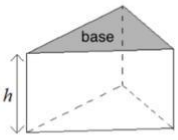
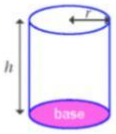
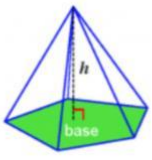
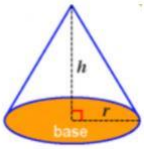
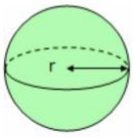
I. Périmètre

Carré	Rectangle	Cercle
		
P = 4 x c	P = 2 x L + 2 x l ou P = 2 x (L + l)	P = d x π ou P = 2 x r x π

II. Aire

Rectangle	Carré	Triangle rectangle	Triangle
			
A = L x l	A = c x c = c^2	A = $\frac{L \times l}{2}$	A = $\frac{b \times h}{2}$
Cercle	**Parallélogramme**	**Losange**	**Trapèze**
			
A = π x R x R = π x R^2	A = c x h	A = $\frac{d \times D}{2}$	A = $\frac{(b+B) \times h}{2}$

III. Volumes

Pavé droit	Cube	Prisme droit	Cylindre de révolution
			
V = L x l x h	V = $c \times c \times c = c^3$	V = Aire de la base x h	V = $\pi \times r^2 \times h$
Pyramide	**Cône de révolution**	**Boule**	
			
V = $\frac{Aire\ de\ la\ base \times h}{3}$	V = $\frac{\pi \times r^2 \times h}{3}$	V = $\frac{4}{3}\pi r^3$	

Définition du volume :

Le volume correspond à l'espace occupé par un objet.

vidéo à consulter:

https://www.youtube.com/watch?v=bXdwXeSmhbI

Exercice d'application :

a. Calculer le volume V_S d'une sphère de rayon R = 1,5m

b. Calculer le volume V_c d'un cube de côté c = 2m

c. Calculer le volume V_p d'un pavé droit de dimensions : L = 3m et de largeur l = 2m et de hauteur h = 1,5m

d. Calculer le volume V_C d'un cylindre de hauteur h = 4 m et de rayon R = 0,8m

Réponses à la page suivante

REPONSES

a. $V_S = 4/3 \times \pi \times R^3 = 4/3 \times \pi \times 1{,}5^3 =$ **14,14 m³**

b. $V_c = c \times c \times c = c^3 = 2^3 =$ **8 m³**

c. $V_p = L \times l \times h = 3 \times 2 \times 1{,}5 =$ **9 m³**

d. $V_C = h \times \pi \times R^2 = 0{,}8 \times \pi \times 4^2 =$ **40,2 m³**