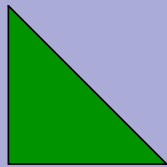
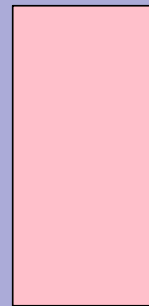
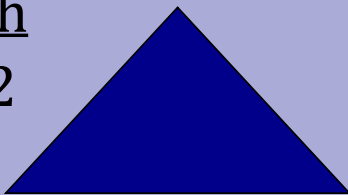


# Module 4: L'aire

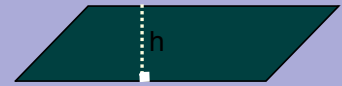
$$A = \frac{1}{2} bh$$



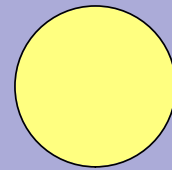
$$A = \frac{bh}{2}$$



$$A = bh$$



$$A = bh$$



$$A = \pi r^2$$

$$A = \pi rr$$

$$\pi = 3,14$$

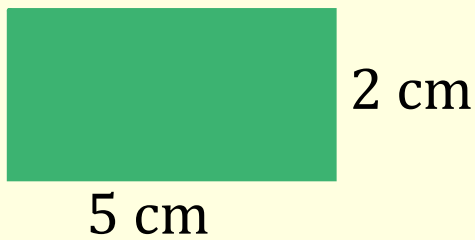
$$r^2 = (r)(r)$$

## L'aire d'un rectangle

A = base x hauteur

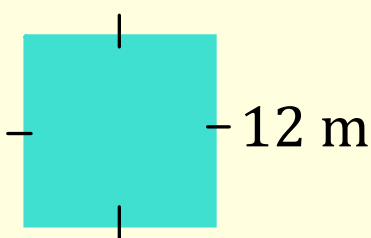
$$A = bh \quad \text{cm}^2 = (\text{cm})(\text{cm})$$

1.



$$\begin{aligned} A &= bh \\ &= (5_{\text{cm}})(2_{\text{cm}}) \\ &= 10 \text{ cm}^2 \end{aligned}$$

2.



$$\begin{aligned} A_{\square} &= bh \\ A_{\square} &= (12\text{m})(12\text{m}) \\ &= 144 \text{ m}^2 \end{aligned}$$

3.

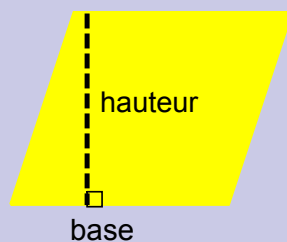


$$A = 16 \text{ cm}^2$$

Quelles sont les dimensions du rectangle?

$$\begin{aligned} 16 \text{ cm}^2 &= bh \\ (8_{\text{cm}})(2_{\text{cm}}) &\text{ ou } (16)(1) \\ &? \end{aligned}$$

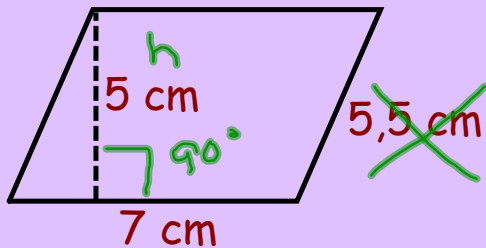
Tout coté d'un parallélogramme est un **base**.  
La **hauteur** d'un parallélogramme est la longueur d'un segment de droite qui relie les cotés parallèles et qui est perpendiculaire à la base.



Rappelle-toi qu'un rectangle et un carré sont des parallélogrammes. L'aire est une surface, dont on l'exprime en unités carrées (exemple:  $\text{cm}^2$ ).

## L'aire d'un parallélogramme

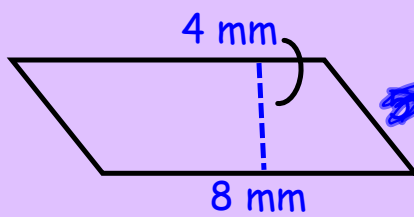
Ex.



Aire = base x hauteur

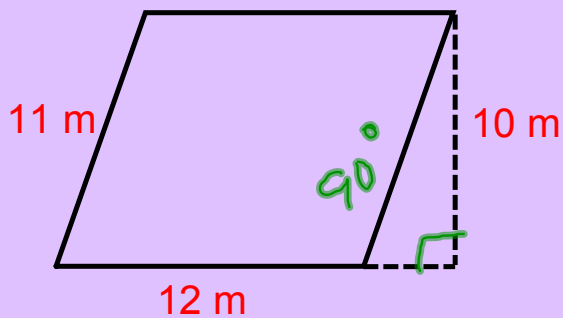
$$\begin{aligned} A &= bh \\ &= (7 \text{ cm})(5 \text{ cm}) \\ &= 35 \text{ cm}^2 \end{aligned}$$

1.



$$\begin{aligned} A &= bh \\ A &= (8 \text{ mm})(4 \text{ mm}) \\ A &= 32 \text{ mm}^2 \end{aligned}$$

2.



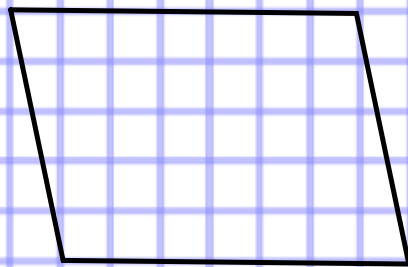
Trouvez l'aire du parallélogramme.

$$\begin{aligned} A &= bh \\ &= (12 \text{ m})(10 \text{ m}) \\ &= 120 \text{ m}^2 \end{aligned}$$

Calcule l'aire de chaque parallélogramme:

u = unité

A)



base =  $7u$   
hauteur =  $5u$

$$A = bh \\ (7)(5) \\ 35u^2$$

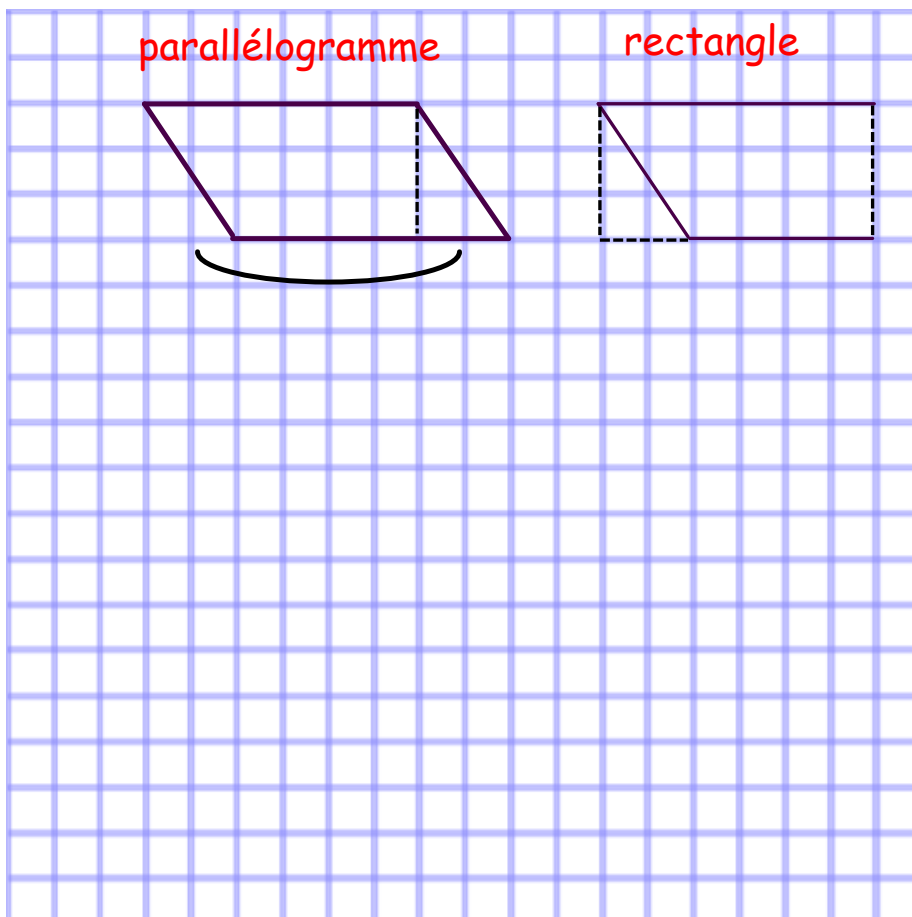
B)



base =  $5,5u$   
hauteur =  $2$

$$A_0 = bh \\ = (5,5)(2) \\ = 11u^2$$

Quand un parallélogramme n'est pas un rectangle, tu peux le "couper" et déplacer les morceaux pour former un rectangle. Voici un façon de le faire:



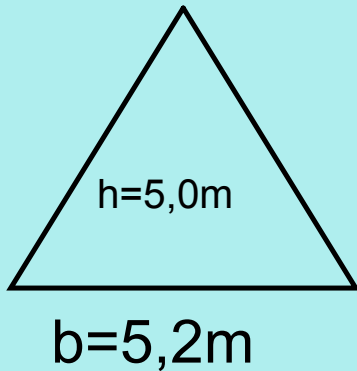
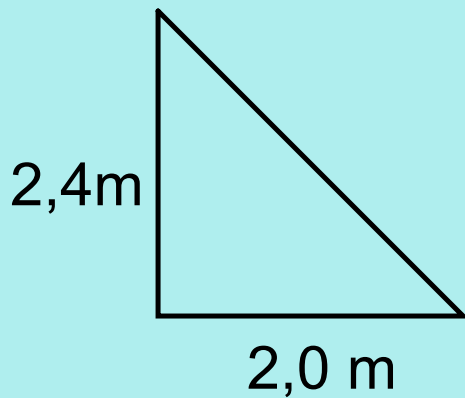
## L'aire d'un triangle

Si tu traces une diagonale dans un parallélogramme, tu obtiens deux triangles congruents.

Des triangles congruents ont la même aire.

Ainsi, l'aire d'un triangle égale  $\frac{1}{2}$  de l'aire du parallélogramme.

## L'aire d'un triangle

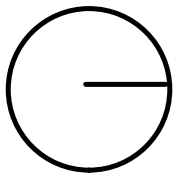


$$\begin{aligned}A_{\Delta} &= \frac{bh}{2} \\ &= \frac{(2,0\text{m})(2,4\text{m})}{2} \\ &= \frac{4,8\text{m}^2}{2} = 2,4\text{m}^2\end{aligned}$$

$$\begin{aligned}A_{\Delta} &= \frac{bh}{2} \\ &= \frac{(5,2\text{m})(5,0\text{m})}{2} \\ &= 13\text{m}^2\end{aligned}$$



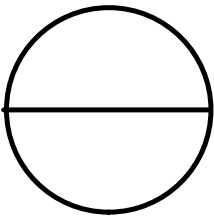
l'aire d'un cercle



$r = 2\text{cm}$

$$\begin{aligned}A_0 &= \pi r r \\ &= (3,14) (2\text{cm})(2\text{cm}) \\ &= 12,56\text{cm}^2\end{aligned}$$

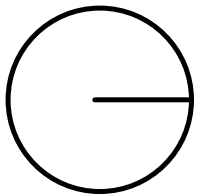
Calcule l'aire de chaque cercle.



d= 5 cm

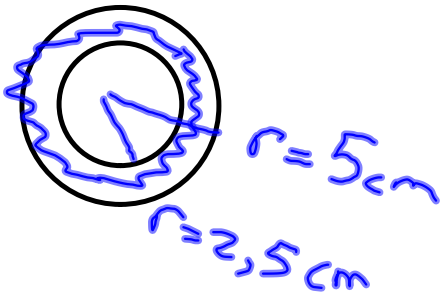
$$r = \frac{d}{2} = \frac{5}{2} = 2,5 \text{ cm}$$

$$\begin{aligned} A_0 &= \pi r r \\ &= (3,14)(2,5)(2,5) = 19,625 \text{ cm}^2 \end{aligned}$$



r=10cm

$$\begin{aligned} A_0 &= \pi r r \\ &= (3,14)(10\text{cm})(10\text{cm}) \\ &= 314 \text{ cm}^2 \end{aligned}$$

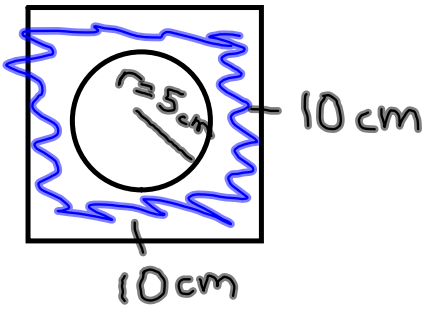


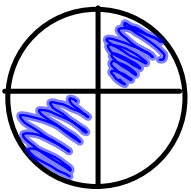
$$A_{\text{O}} - A_{\text{o}}$$

$$\begin{aligned} A_{\text{O}} &= \pi r r \\ &= 3,14 (5\text{cm}) (5\text{cm}) \\ &= 78,5 \text{ cm}^2 \end{aligned}$$

$$\begin{aligned} A_{\text{o}} &= \pi r r \\ &= 3,14 (2,5) (2,5) \end{aligned}$$

Devoir





$r=6\text{cm}$

