CHAPITRE : LE COURANT ALTERNATIF

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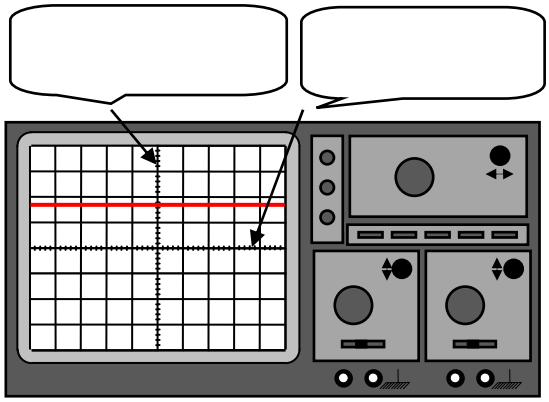

Un oscilloscope

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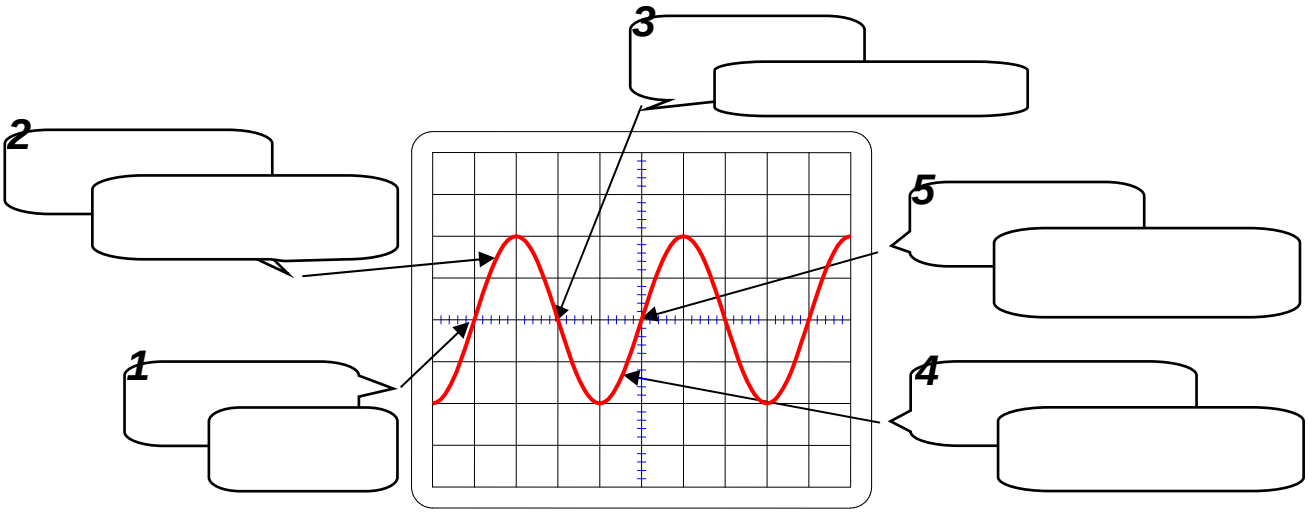

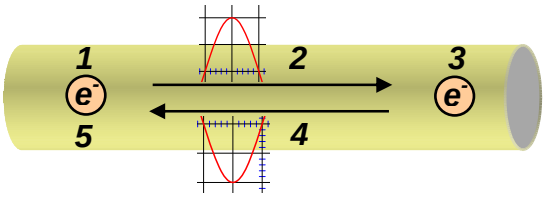

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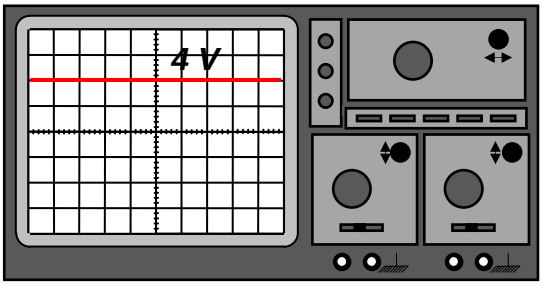

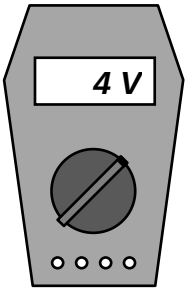

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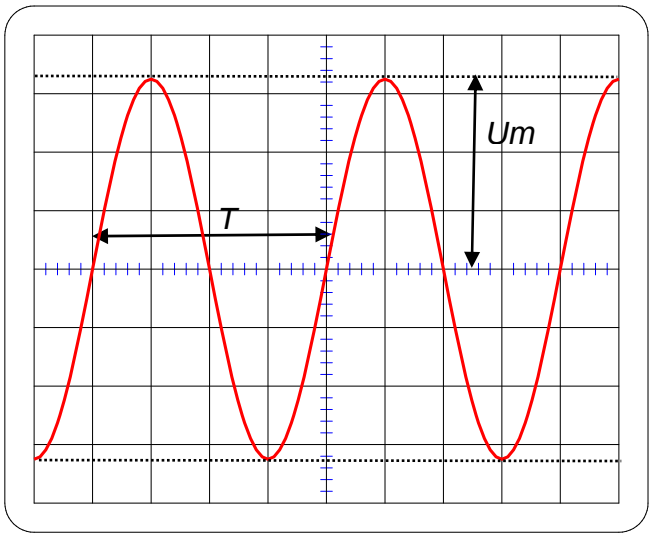

Sensibilité horizontale : 5 ms/ div

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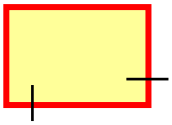

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Sensibilité verticale : 100 V/ div

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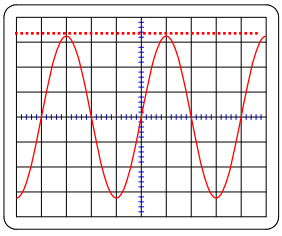

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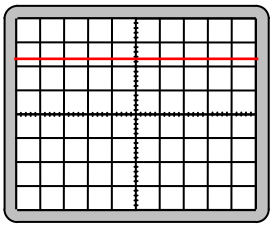

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courant alternatif ..... *courant continu .....*

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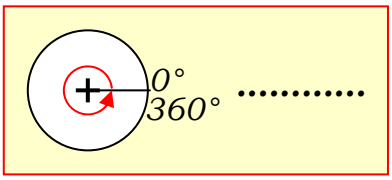
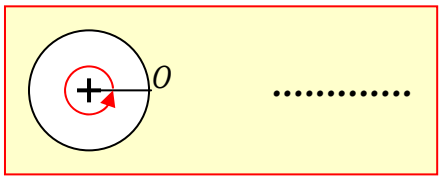
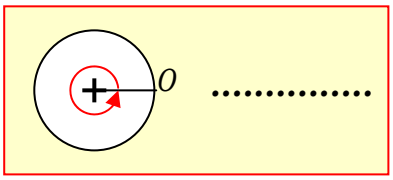
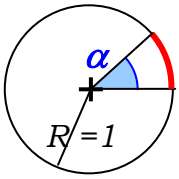






CONVERSION :



***l* : .....**
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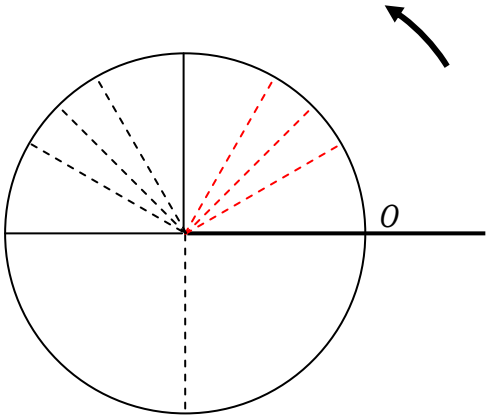
° **rad**

DES ANGLES PARTICULIERS :



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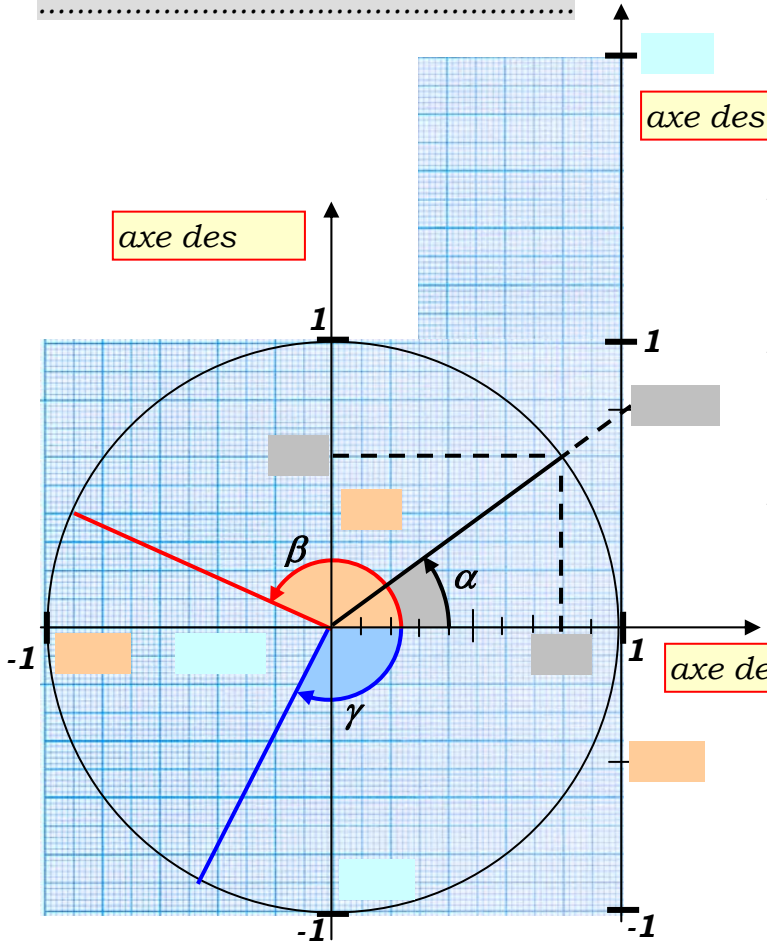


*Axe **horizontal** gradué de .....*
axe des .....
cos α = ...

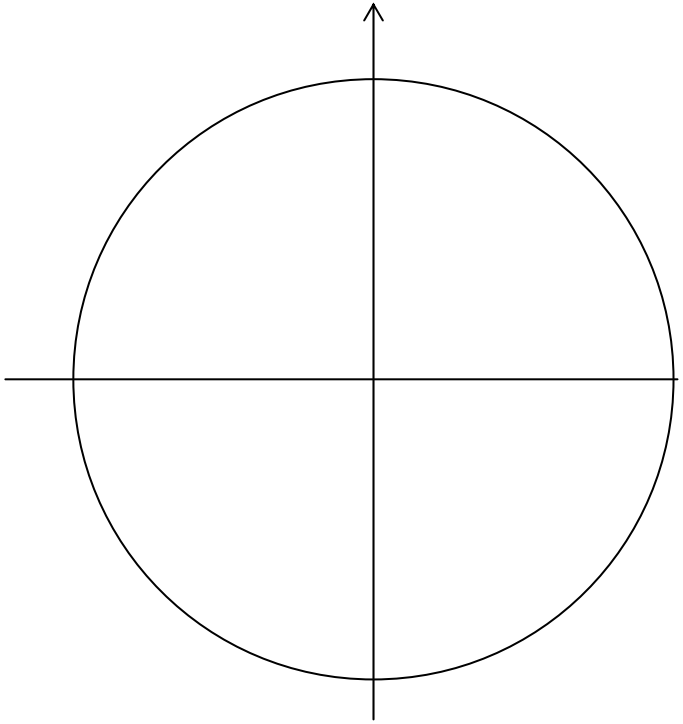
*Axe **vertical** par O de .....*
axe des .....
sin α = ...

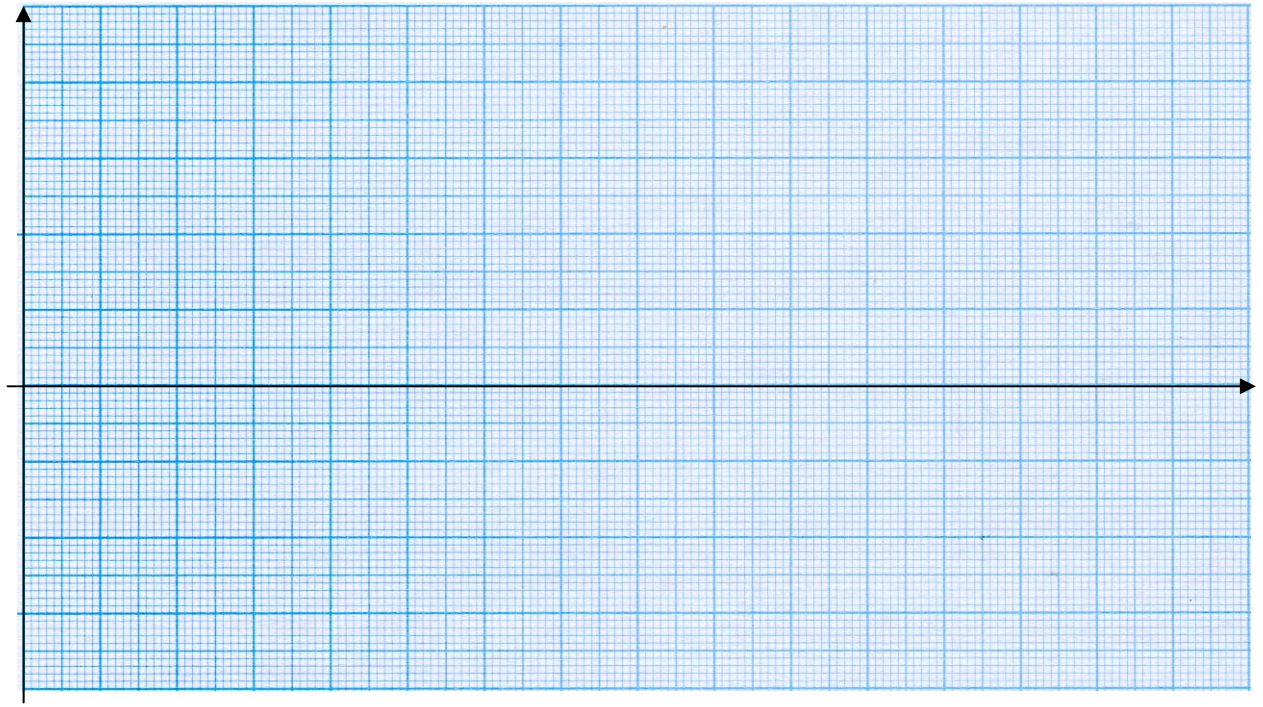
*Axe **vertical tangeant** de .....*
axe des .....
tan α = ...

sin β = ...
cos β = ...
tan β = ...

sin γ = ...
cos γ = ...
tan γ = ...

.....





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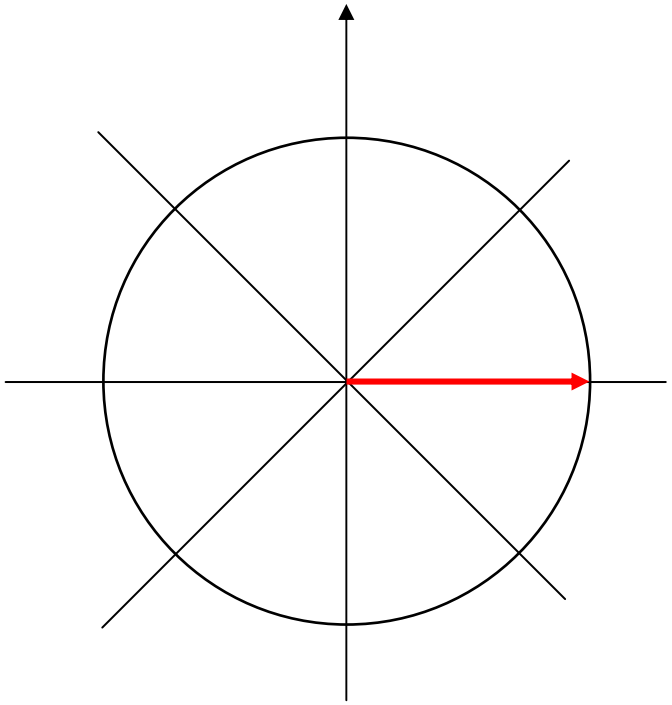
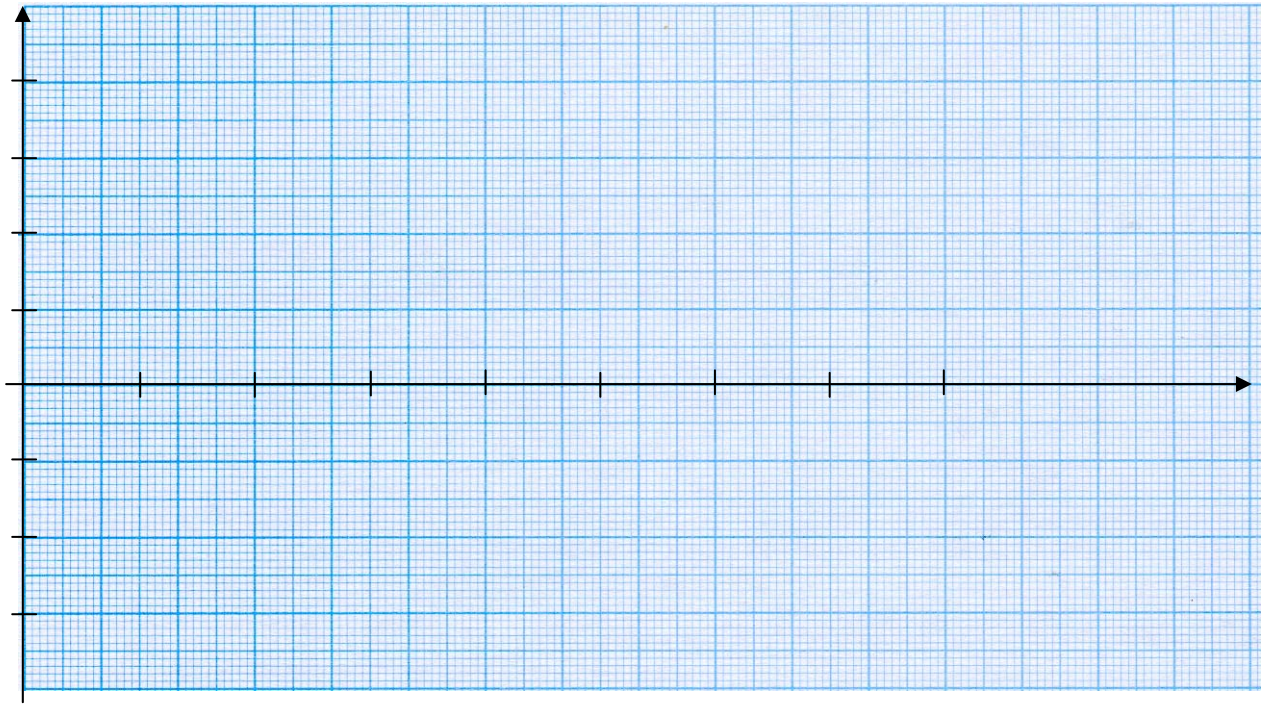
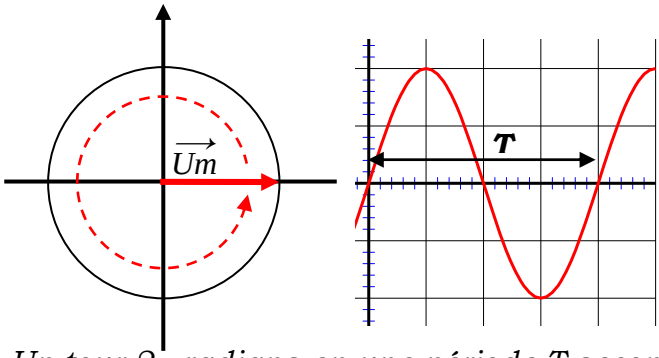
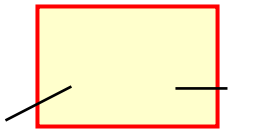


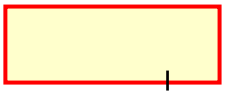


Généralisation :

Vitesse angulaire du vecteur de FRESNEL ou ***pulsation***

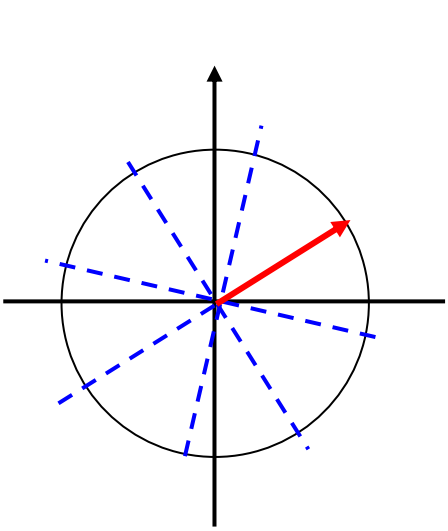


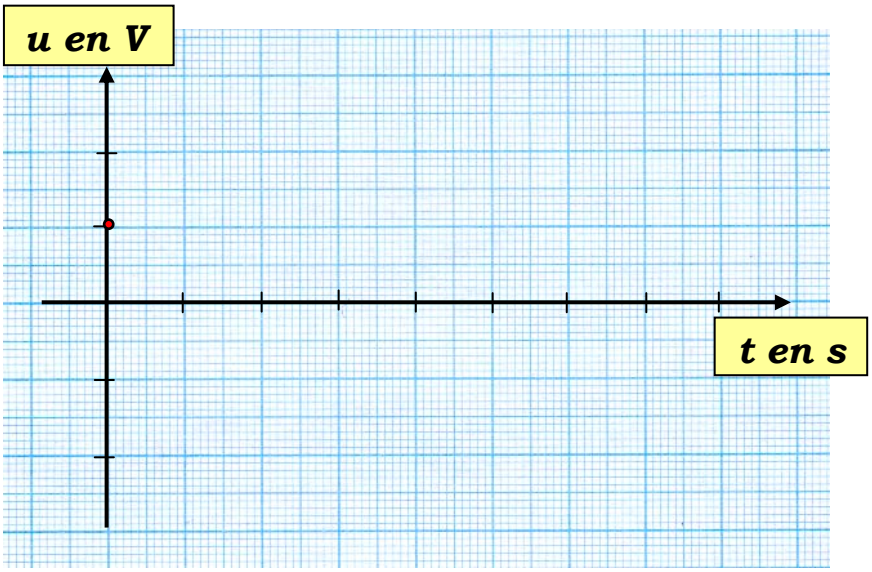




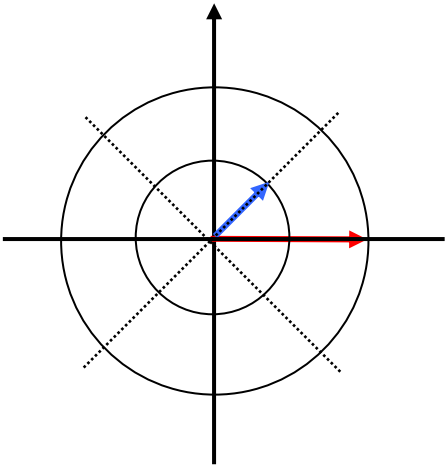
Un tour 2π radians en une période T seconde

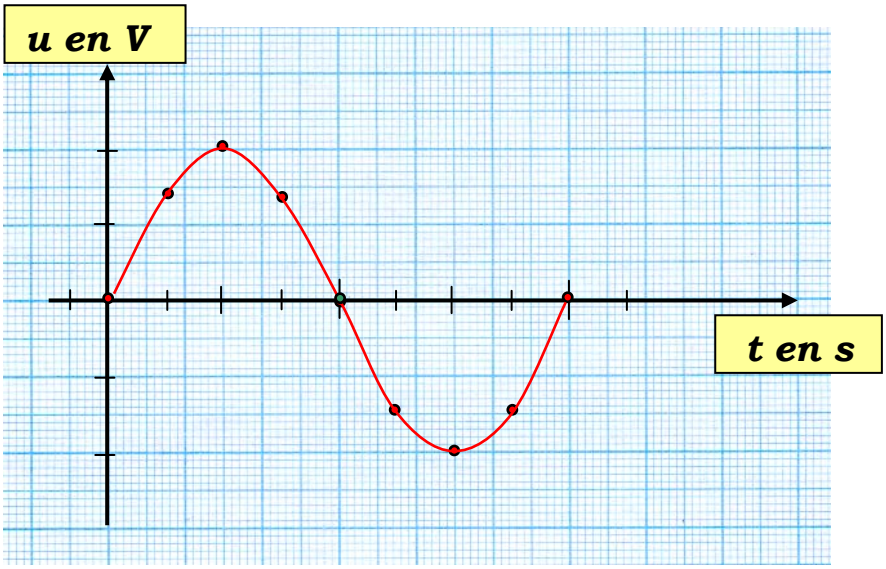
cas où u≠0 à t=0, notion de phase à l'origine





Visualisation de 2 tensions, somme de 2 tensions





NOM : .....

Classe : .....

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Contrôle n°

COURANT ALTERNATIF

Soit les deux tensions alternatives sinusoïdales :

$u_1 = 4 \sin (628\ t)$

$u_2 = 2 \sin (628\ t + \frac{\pi}{2})$

1. *Sur la feuille annexe représenter les deux vecteurs de Fresnel* $\overrightarrow{U_1m}$ *et* $\overrightarrow{U_2m}$ *en prenant comme unité graphique : 1cm pour 1V.*

2. *Sachant que la pulsation* $\omega = 628$ *rad / s calculer la fréquence et la période de ce courant alternatif.*

3. *Représenter sur la feuille annexe millimétrée les deux sinusoïdes en prenant comme unité graphique : 1cm pour 1V et 1cm pour 1ms.*

4. *Représenter graphiquement la sinusoïde correspondant à la tension* $u = u_1 + u_2$.

5. *Lire graphiquement la tension maximale Um et la phase à l'origine* φ_0 *correspondant à cette tension u.*
Retrouver ces résultats par le calcul.