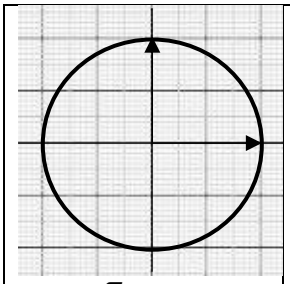
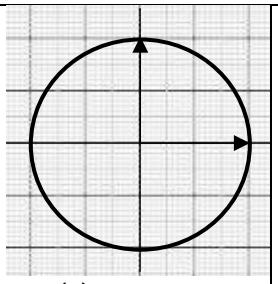
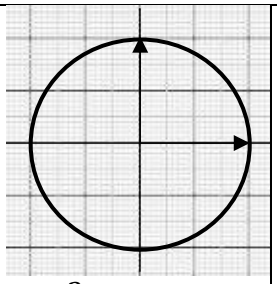
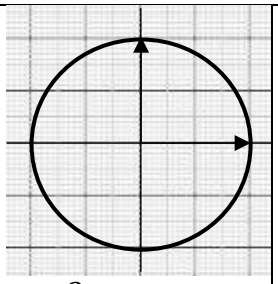
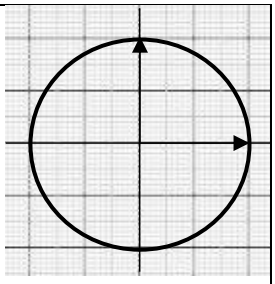
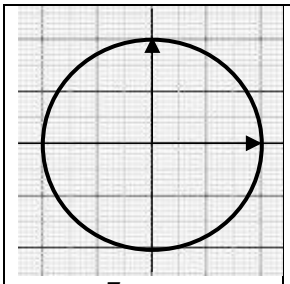
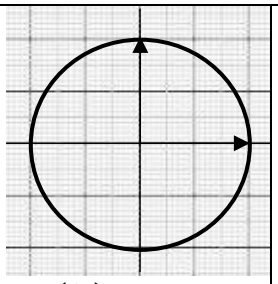
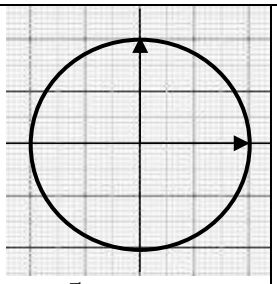
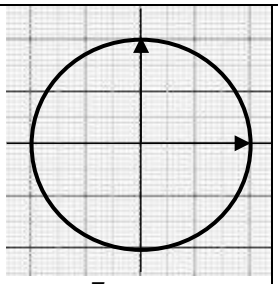
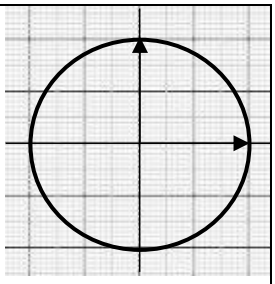
TD

TRIGONOMETRIE

Exercice 1 : : *Angles remarquables :* Compléter le tableau ci-dessous en repérant l'angle défini sur le cercle trigonométrique et en donnant les valeurs du cosinus et du sinus de cet angle.

				
$\cos\left(-\frac{\pi}{6}\right) =$	$\cos\left(\frac{\pi}{4}\right) =$	$\cos\left(\frac{2\pi}{3}\right) =$	$\cos\left(\frac{3\pi}{2}\right) =$	$\cos(\pi) =$
$\sin\left(-\frac{\pi}{6}\right) =$	$\sin\left(\frac{\pi}{4}\right) =$	$\sin\left(\frac{2\pi}{3}\right) =$	$\sin\left(\frac{3\pi}{2}\right) =$	$\sin(\pi) =$

				
$\cos\left(-\frac{7\pi}{6}\right) =$	$\cos\left(\frac{5\pi}{4}\right) =$	$\cos\left(\frac{5\pi}{3}\right) =$	$\cos\left(\frac{-7\pi}{2}\right) =$	$\cos(-301\pi) =$
$\sin\left(-\frac{7\pi}{6}\right) =$	$\sin\left(\frac{5\pi}{4}\right) =$	$\sin\left(\frac{5\pi}{3}\right) =$	$\sin\left(\frac{-7\pi}{2}\right) =$	$\sin(-301\pi) =$

Exercice 2 :

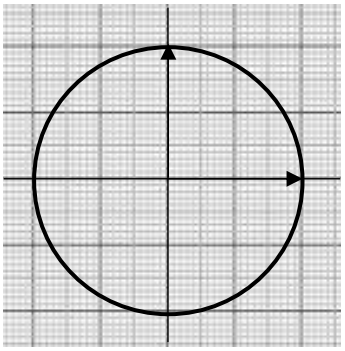
a) Convertir en degrés, la mesure suivante exprimée en radians : $\frac{7\pi}{6}$

b) Convertir en radians sous la forme $\frac{a\pi}{b}$ ($\frac{a}{b}$ irréductible), la mesure suivante exprimées en degrés : 20°

Exercice 3 : ⇨ Placer les points A, B, C, D et E associés **respectivement** aux angles x suivants, sur le cercle trigonométrique ci-contre :

$x = 9\,\pi$; $x = \frac{-5\pi}{6}$; $x = \frac{5\pi}{3}$; $x = \frac{5\pi}{2}$; $x = \frac{9\pi}{4}$

⇨ Donner pour chaque angle la valeur du $\cos x$ et du $\sin x$ sous forme d'une fraction.

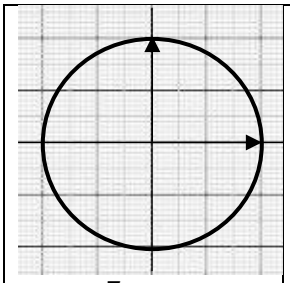
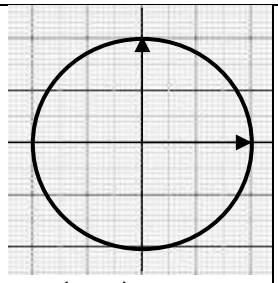
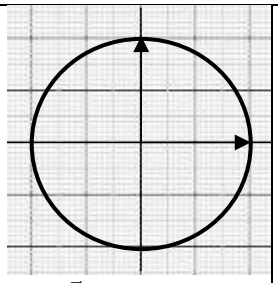
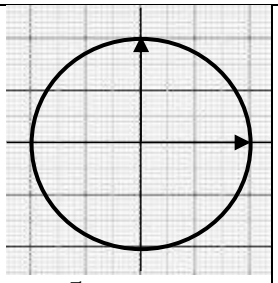
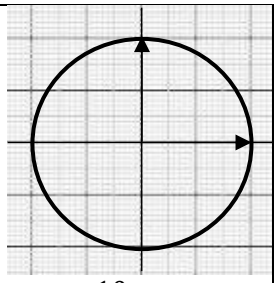


Exercice 4: Pour chacun des angles suivants en radians : $\frac{4\pi}{3}$; $\frac{119\pi}{6}$; 55 ; 2023

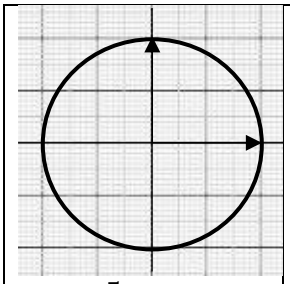
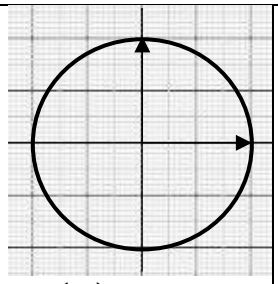
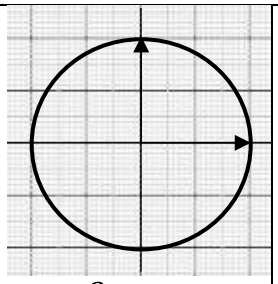
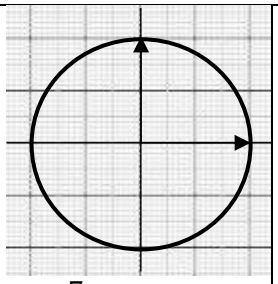
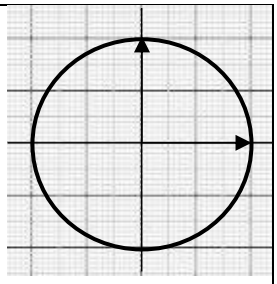
⇨ donner sa mesure principale,

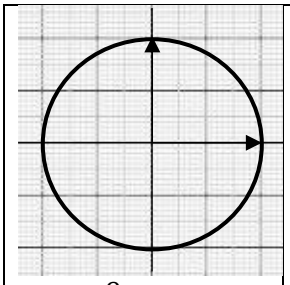
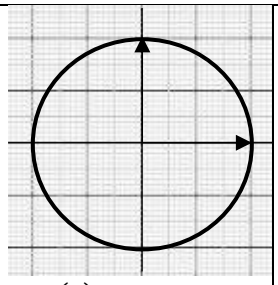
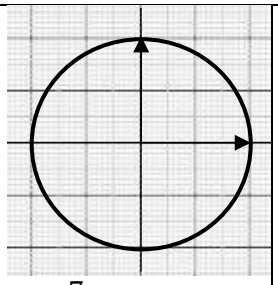
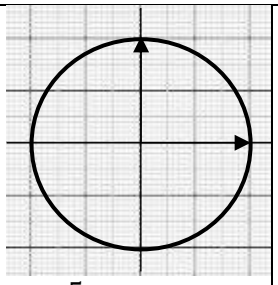
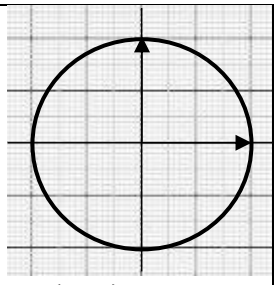
⇨ écrire cet angle sous la forme : $\boldsymbol{\alpha + 2k\pi}$ avec $-\pi < \alpha \leq +\pi$ et $k \in \mathbb{Z}$

Exercice 5 : Compléter le tableau ci-dessous en repérant l'angle défini sur le cercle trigonométrique et en donnant les valeurs du cosinus et du sinus de cet angle.

				
$\cos\left(-\frac{7\pi}{6}\right) =$	$\cos\left(-\frac{3\pi}{4}\right) =$	$\cos\left(\frac{5\pi}{3}\right) =$	$\cos\left(\frac{5\pi}{2}\right) =$	$\cos\left(-\frac{10\pi}{3}\right) =$
$\sin\left(-\frac{7\pi}{6}\right) =$	$\sin\left(-\frac{3\pi}{4}\right) =$	$\sin\left(\frac{5\pi}{3}\right) =$	$\sin\left(\frac{5\pi}{2}\right) =$	$\sin\left(-\frac{10\pi}{3}\right) =$

Exercice 6 : *Angles remarquables :* Compléter le tableau ci-dessous en repérant l'angle défini sur le cercle trigonométrique et en donnant les valeurs du cosinus et du sinus de cet angle.

				
$\cos\left(-\frac{5\pi}{6}\right) =$	$\cos\left(\frac{7\pi}{4}\right) =$	$\cos\left(\frac{-2\pi}{3}\right) =$	$\cos\left(\frac{7\pi}{2}\right) =$	$\cos(3\pi) =$
$\sin\left(-\frac{5\pi}{6}\right) =$	$\sin\left(\frac{7\pi}{4}\right) =$	$\sin\left(\frac{-2\pi}{3}\right) =$	$\sin\left(\frac{7\pi}{2}\right) =$	$\sin(3\pi) =$

				
$\cos\left(-\frac{9\pi}{6}\right) =$	$\cos\left(\frac{\pi}{4}\right) =$	$\cos\left(\frac{7\pi}{3}\right) =$	$\cos\left(\frac{5\pi}{2}\right) =$	$\cos(26\pi) =$
$\sin\left(-\frac{9\pi}{6}\right) =$	$\sin\left(\frac{\pi}{4}\right) =$	$\sin\left(\frac{7\pi}{3}\right) =$	$\sin\left(\frac{5\pi}{2}\right) =$	$\sin(26\pi) =$