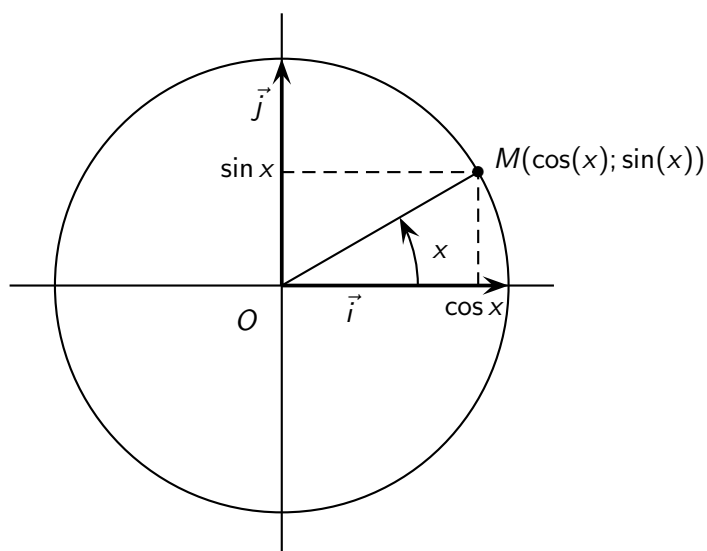
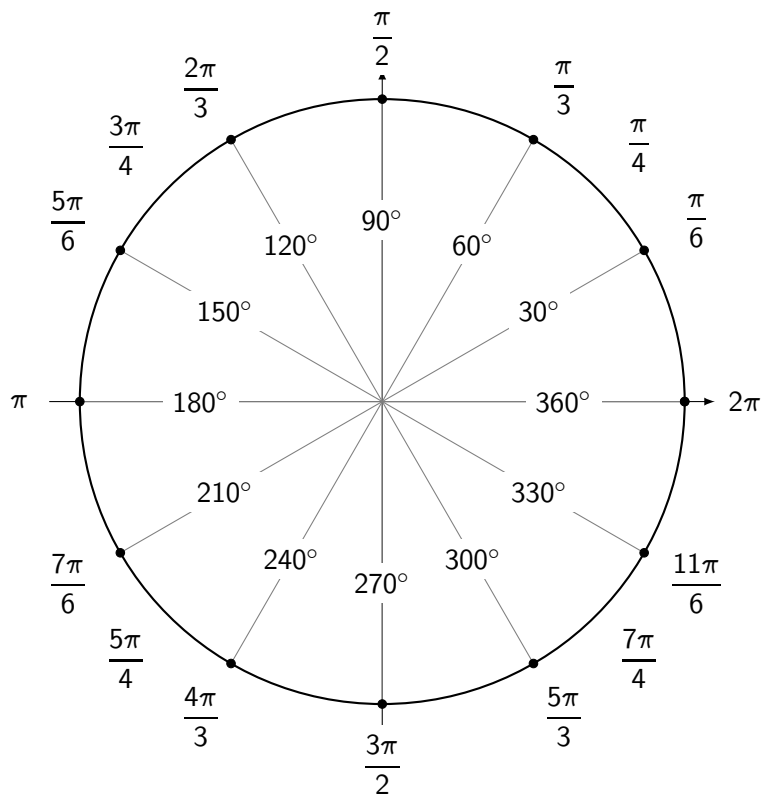


## Trigonométrie

### LE CERCLE TRIGONOMÉTRIQUE

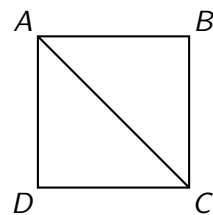


- Le **cosinus** de  $x$ , noté  $\cos(x)$ , est l'abscisse de  $M$ .
- Le **sinus** de  $x$ , noté  $\sin(x)$ , est l'ordonnée de  $M$ .

### Exercice 1

$ABCD$  est un carré de côté 1.

Calculer la longueur  $AC$ , puis en déduire les valeurs exactes de  $\cos\left(\frac{\pi}{4}\right)$  et  $\sin\left(\frac{\pi}{4}\right)$ .



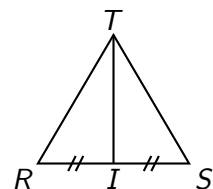
$$\cos\left(\frac{\pi}{4}\right) =$$

$$\sin\left(\frac{\pi}{4}\right) =$$

### Exercice 2

$RST$  est un triangle équilatéral de côté 1.

Calculer la longueur  $TI$ , en déduire les valeurs exactes de  $\cos\left(\frac{\pi}{6}\right)$ ,  $\sin\left(\frac{\pi}{6}\right)$ ,  $\cos\left(\frac{\pi}{3}\right)$  et  $\sin\left(\frac{\pi}{3}\right)$ .



$$\cos\left(\frac{\pi}{6}\right) =$$

$$\sin\left(\frac{\pi}{6}\right) =$$

$$\cos\left(\frac{\pi}{3}\right) =$$

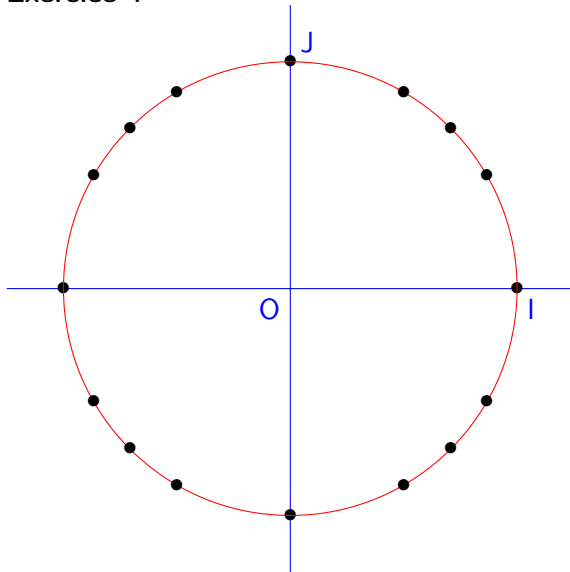
$$\sin\left(\frac{\pi}{3}\right) =$$

### Exercice 3

| $x$       | $0^\circ$ | $30^\circ$          | $45^\circ$          | $60^\circ$          | $90^\circ$          |
|-----------|-----------|---------------------|---------------------|---------------------|---------------------|
|           | 0 rad     | $\frac{\pi}{6}$ rad | $\frac{\pi}{4}$ rad | $\frac{\pi}{3}$ rad | $\frac{\pi}{2}$ rad |
| $\sin(x)$ |           |                     |                     |                     |                     |
| $\cos(x)$ |           |                     |                     |                     |                     |

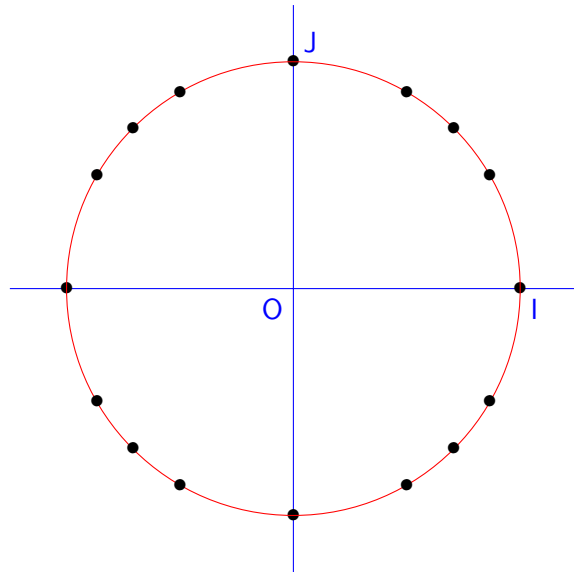
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Exercise 4



$$\sin(120^\circ) =$$

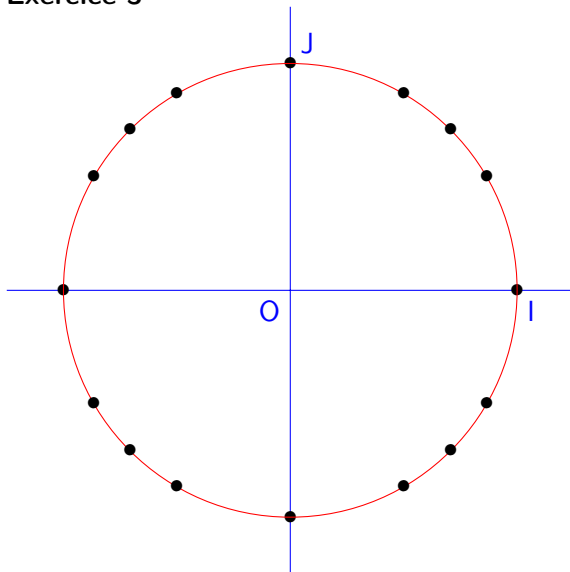
$$\cos(120^\circ) =$$



$$\sin(135^\circ) =$$

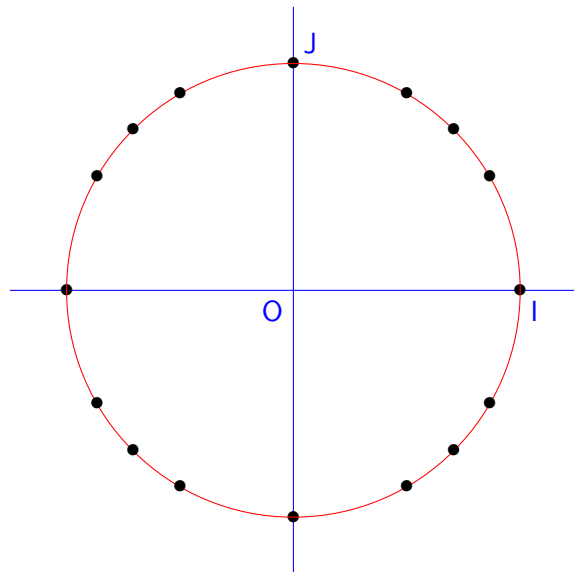
$$\cos(135^\circ) =$$

Exercise 5



$$\sin(150^\circ) =$$

$$\cos(150^\circ) =$$

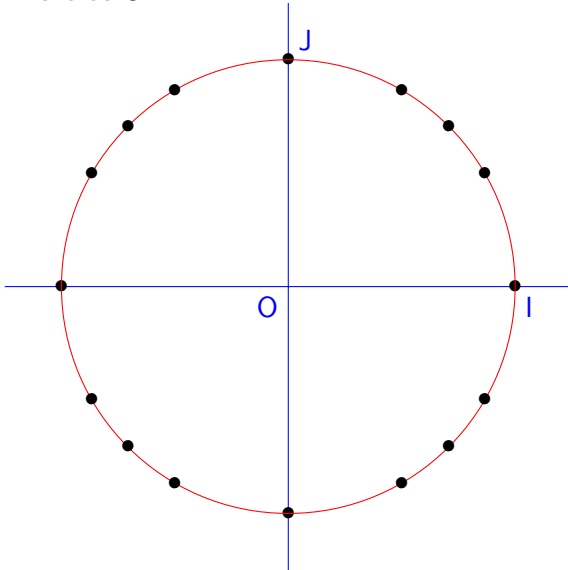


$$\sin(210^\circ) =$$

$$\cos(210^\circ) =$$

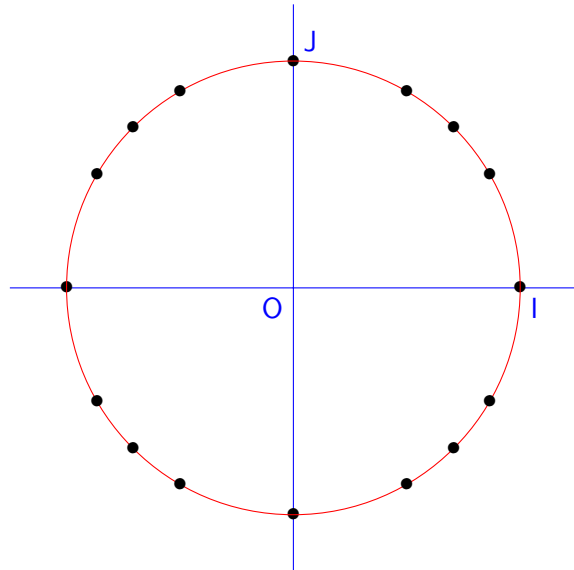
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Exercise 6



$$\sin\left(\frac{4\pi}{3}\right) =$$

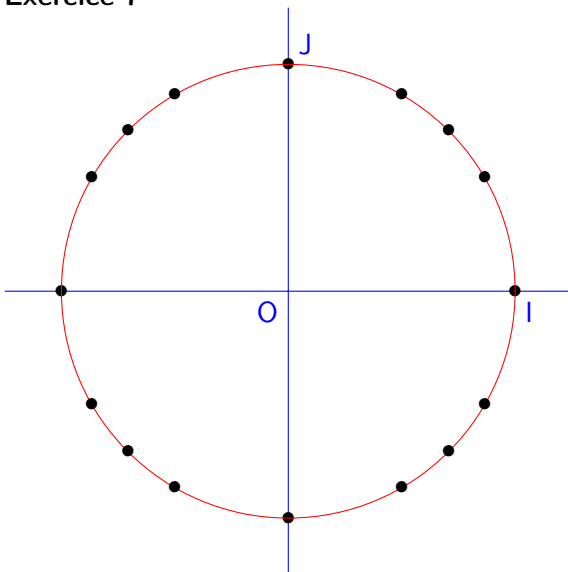
$$\cos\left(\frac{4\pi}{3}\right) =$$



$$\sin(330^\circ) =$$

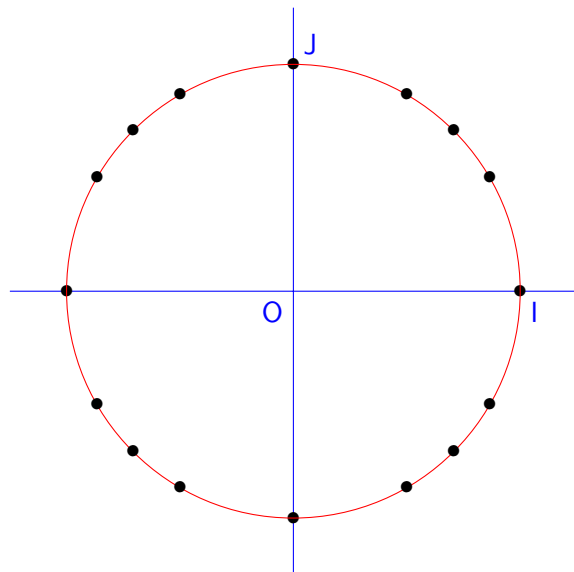
$$\cos(330^\circ) =$$

Exercise 7



$$\sin(270^\circ) =$$

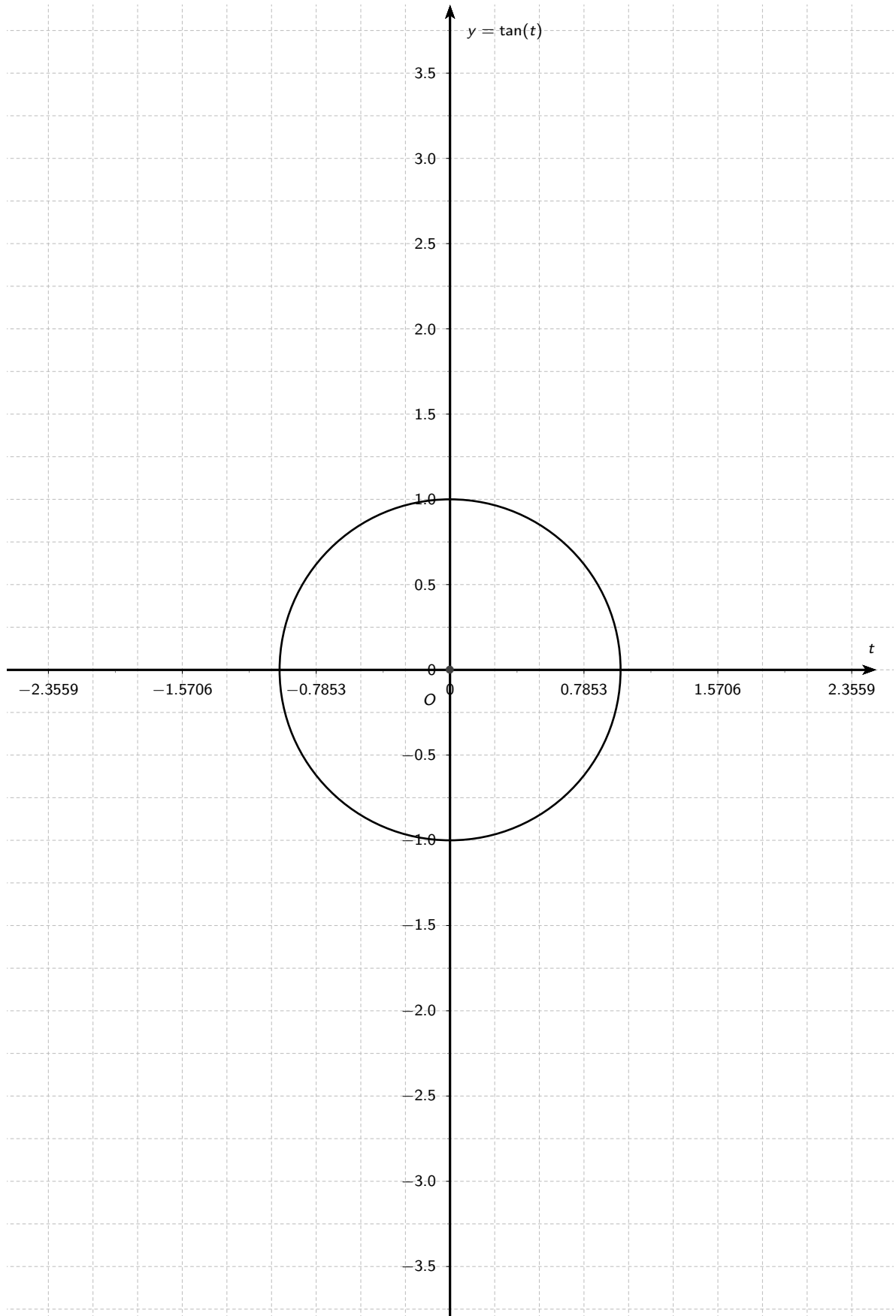
$$\cos(270^\circ) =$$



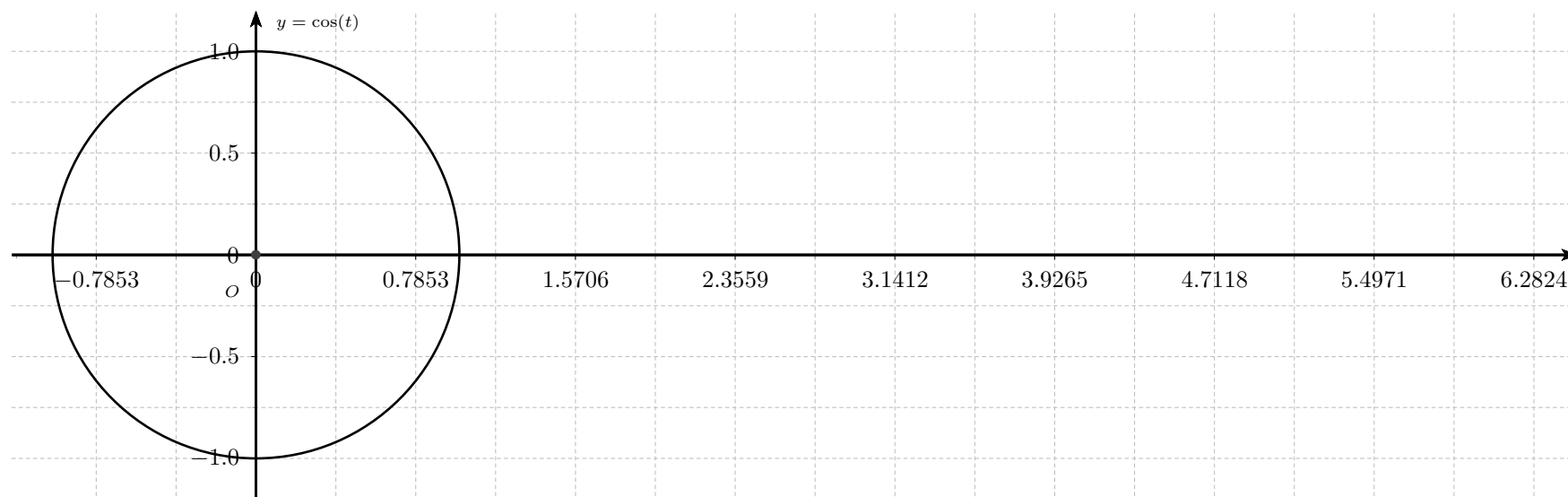
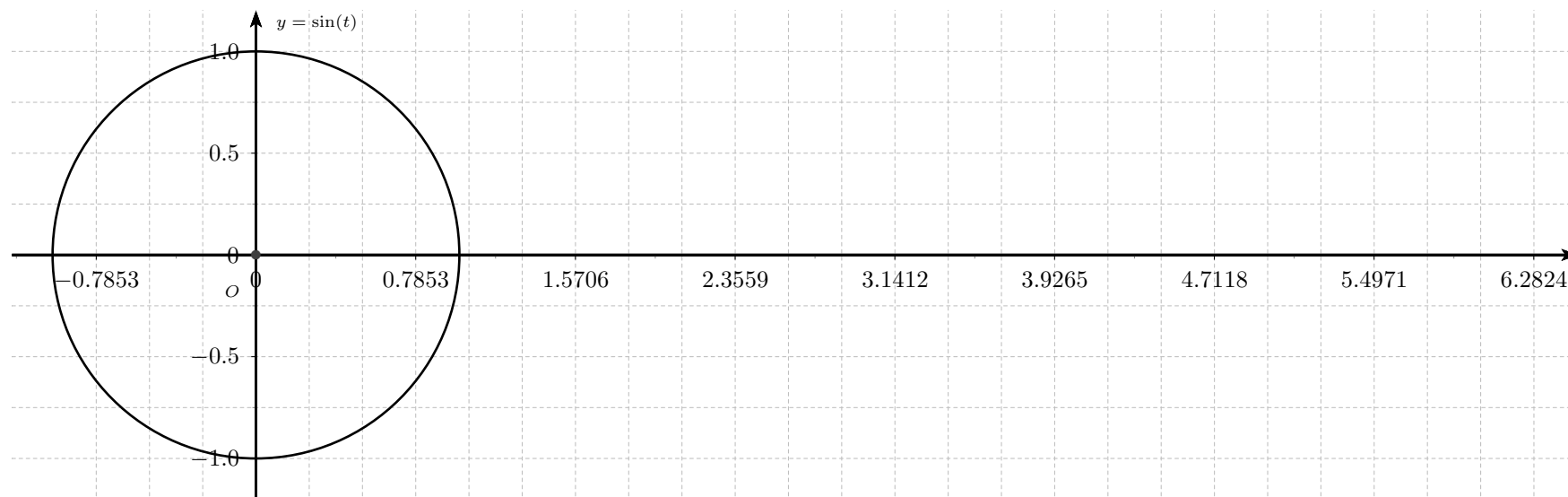
$$\sin(\pi) =$$

$$\cos(\pi) =$$

## Exercise 8



Courbes  $y = \sin t$  et  $y = \cos t$



Exercise 9

