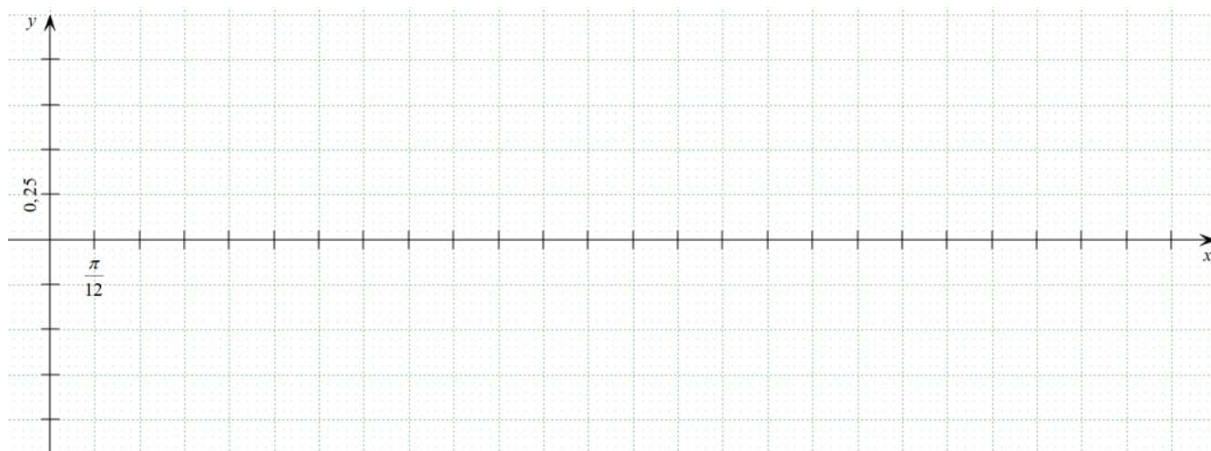


# FUNCIONES TRIGONOMÉTRICAS DIRECTAS

**Función seno:**  $y = \text{sen } x$   $x \in [0, 2\pi]$  (en radianes)

$x$	0	$\frac{\pi}{12}$	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{5\pi}{12}$	$\frac{\pi}{2}$	$\frac{7\pi}{12}$	$\frac{2\pi}{3}$	$\frac{3\pi}{4}$	$\frac{5\pi}{6}$	$\frac{11\pi}{12}$	$\pi$
$y$													

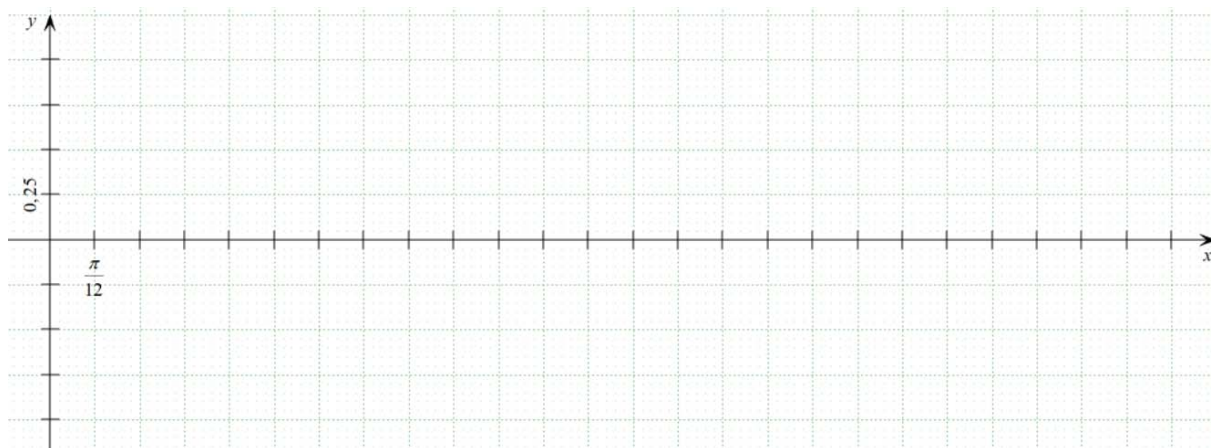
$x$	$\frac{13\pi}{12}$	$\frac{7\pi}{6}$	$\frac{5\pi}{4}$	$\frac{4\pi}{3}$	$\frac{17\pi}{12}$	$\frac{3\pi}{2}$	$\frac{19\pi}{12}$	$\frac{5\pi}{3}$	$\frac{7\pi}{4}$	$\frac{11\pi}{6}$	$\frac{23\pi}{12}$	$2\pi$
$y$												



**Función coseno:**  $y = \text{cos } x$   $x \in [0, 2\pi]$  (en radianes)

$x$	0	$\frac{\pi}{12}$	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{5\pi}{12}$	$\frac{\pi}{2}$	$\frac{7\pi}{12}$	$\frac{2\pi}{3}$	$\frac{3\pi}{4}$	$\frac{5\pi}{6}$	$\frac{11\pi}{12}$	$\pi$
$y$													

$x$	$\frac{13\pi}{12}$	$\frac{7\pi}{6}$	$\frac{5\pi}{4}$	$\frac{4\pi}{3}$	$\frac{17\pi}{12}$	$\frac{3\pi}{2}$	$\frac{19\pi}{12}$	$\frac{5\pi}{3}$	$\frac{7\pi}{4}$	$\frac{11\pi}{6}$	$\frac{23\pi}{12}$	$2\pi$
$y$												

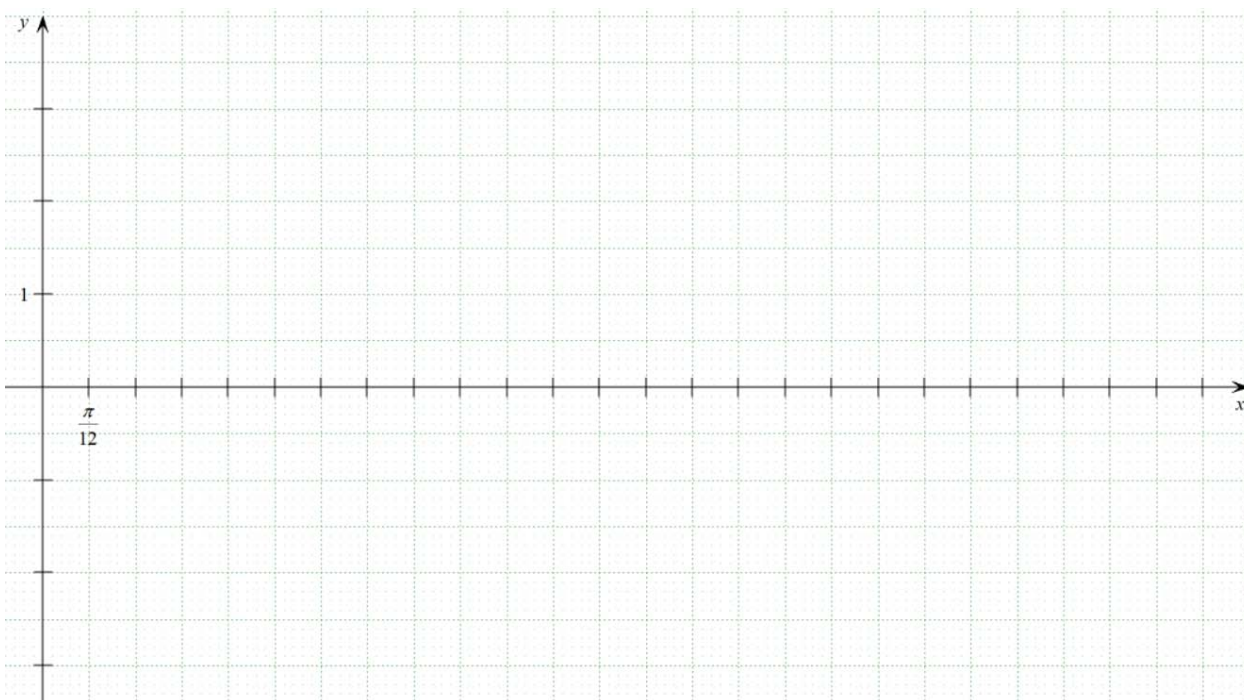


**Función tangente:**  $y = \operatorname{tg} x$

Completa la siguiente tabla ( $x \in [0, 2\pi] - \left\{ \frac{\pi}{2}, \frac{3\pi}{2} \right\}$  viene dada en radianes), con dos decimales.

$x$	0	$\frac{\pi}{12}$	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{5\pi}{12}$	$\frac{\pi}{2}$	$\frac{7\pi}{12}$	$\frac{2\pi}{3}$	$\frac{3\pi}{4}$	$\frac{5\pi}{6}$	$\frac{11\pi}{12}$	$\pi$
$y$							$\infty$						

$x$	$\frac{13\pi}{12}$	$\frac{7\pi}{6}$	$\frac{5\pi}{4}$	$\frac{4\pi}{3}$	$\frac{17\pi}{12}$	$\frac{3\pi}{2}$	$\frac{19\pi}{12}$	$\frac{5\pi}{3}$	$\frac{7\pi}{4}$	$\frac{11\pi}{6}$	$\frac{23\pi}{12}$	$2\pi$
$y$						$\infty$						

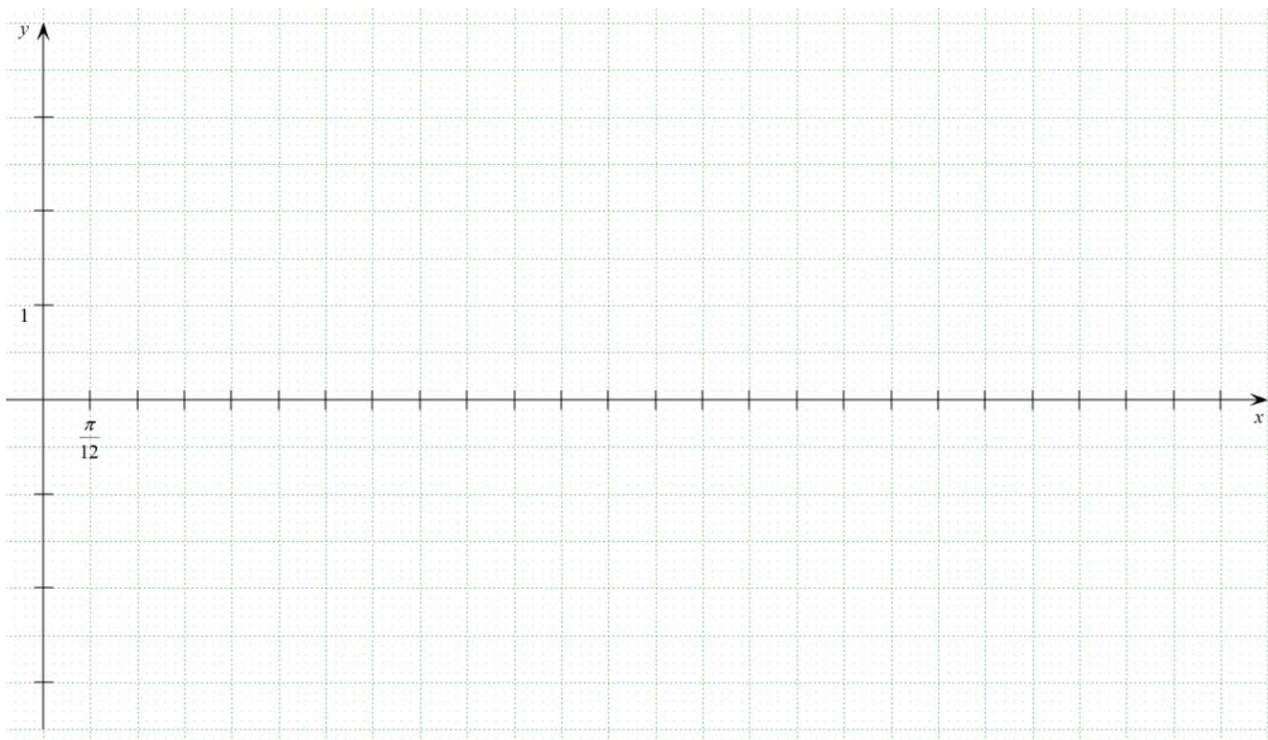


**Función cosecante:**  $y = \operatorname{cosec} x = \frac{1}{\operatorname{sen} x}$

Completa la siguiente tabla ( $x \in (0, 2\pi) - \{\pi\}$  viene dada en radianes), con dos decimales.

$x$	0	$\frac{\pi}{12}$	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{5\pi}{12}$	$\frac{\pi}{2}$	$\frac{7\pi}{12}$	$\frac{2\pi}{3}$	$\frac{3\pi}{4}$	$\frac{5\pi}{6}$	$\frac{11\pi}{12}$	$\pi$
$y$	$\infty$												$\infty$

$x$	$\frac{13\pi}{12}$	$\frac{7\pi}{6}$	$\frac{5\pi}{4}$	$\frac{4\pi}{3}$	$\frac{17\pi}{12}$	$\frac{3\pi}{2}$	$\frac{19\pi}{12}$	$\frac{5\pi}{3}$	$\frac{7\pi}{4}$	$\frac{11\pi}{6}$	$\frac{23\pi}{12}$	$2\pi$
$y$												$\infty$



**Función secante:**  $y = \sec x = \frac{1}{\cos x}$   $x \in [0, 2\pi] - \left\{ \frac{\pi}{2}, \frac{3\pi}{2} \right\}$  (en radianes)

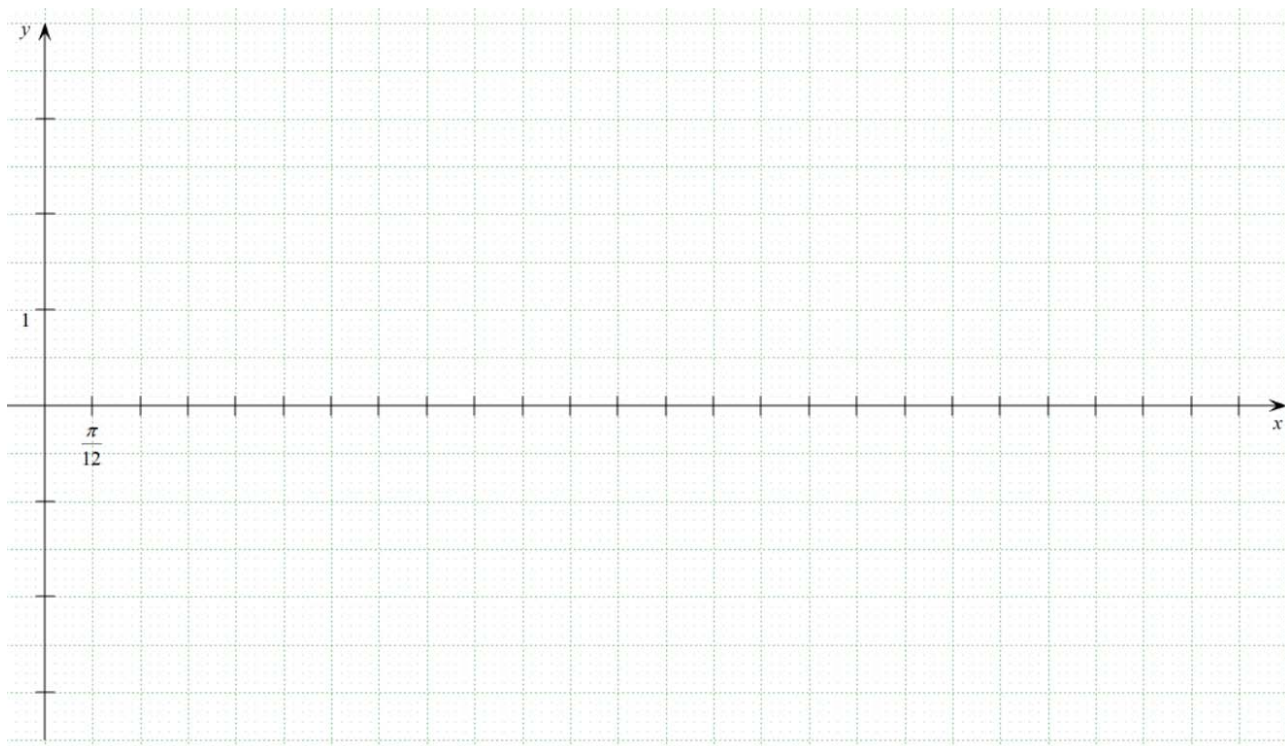
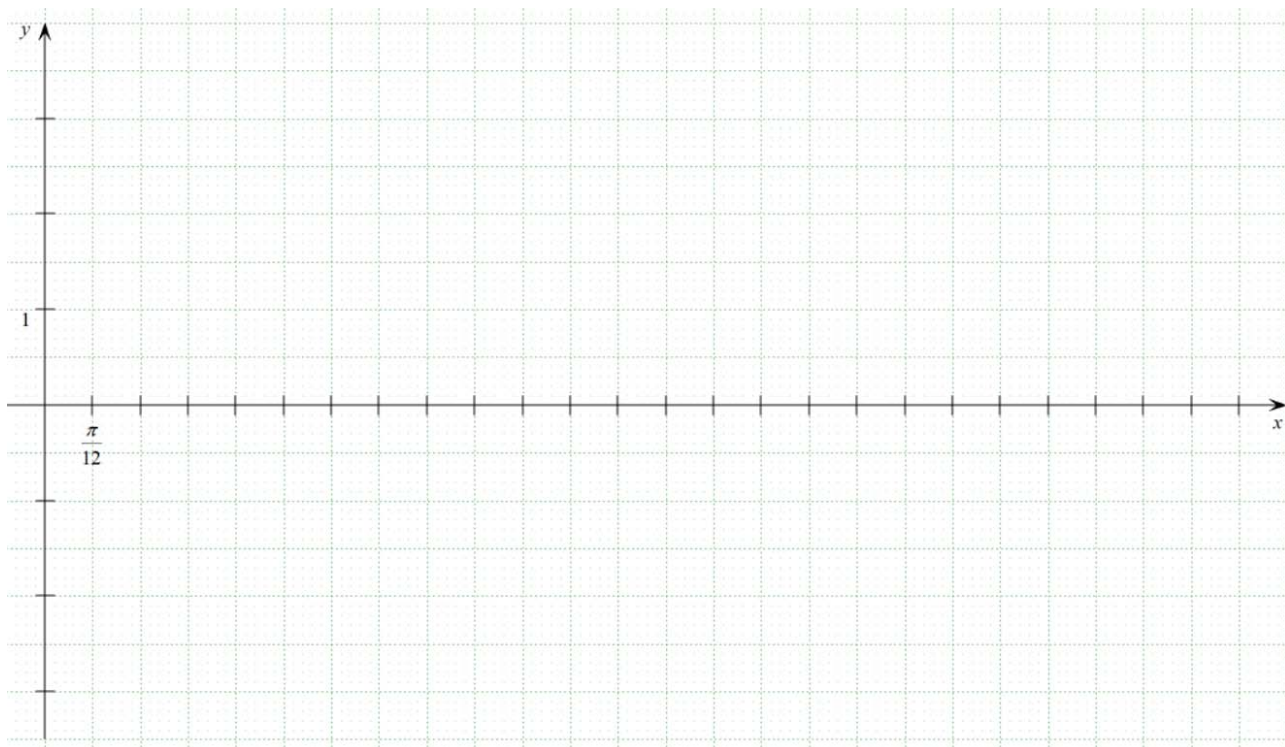
$x$	$0^\circ$	$15^\circ$	$30^\circ$	$45^\circ$	$60^\circ$	$75^\circ$	$90^\circ$	$105^\circ$	$120^\circ$	$135^\circ$	$150^\circ$	$165^\circ$	$180^\circ$
	0	$\frac{\pi}{12}$	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{5\pi}{12}$	$\frac{\pi}{2}$	$\frac{7\pi}{12}$	$\frac{2\pi}{3}$	$\frac{3\pi}{4}$	$\frac{5\pi}{6}$	$\frac{11\pi}{12}$	$\pi$
$y$							$\infty$						

$x$	$195^\circ$	$210^\circ$	$225^\circ$	$240^\circ$	$255^\circ$	$270^\circ$	$285^\circ$	$300^\circ$	$315^\circ$	$330^\circ$	$345^\circ$	$360^\circ$
	$\frac{13\pi}{12}$	$\frac{7\pi}{6}$	$\frac{5\pi}{4}$	$\frac{4\pi}{3}$	$\frac{17\pi}{12}$	$\frac{3\pi}{2}$	$\frac{19\pi}{12}$	$\frac{5\pi}{3}$	$\frac{7\pi}{4}$	$\frac{11\pi}{6}$	$\frac{23\pi}{12}$	$2\pi$
$y$						$\infty$						

**Función cotangente:**  $y = \cotg x = \frac{1}{\tg x}$   $x \in (0, 2\pi) - \left\{ \frac{\pi}{2}, \frac{3\pi}{2} \right\}$

$x$	0	$\frac{\pi}{12}$	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{5\pi}{12}$	$\frac{\pi}{2}$	$\frac{7\pi}{12}$	$\frac{2\pi}{3}$	$\frac{3\pi}{4}$	$\frac{5\pi}{6}$	$\frac{11\pi}{12}$	$\pi$
$y$	$\infty$						$\infty$						$\infty$

$x$	$\frac{13\pi}{12}$	$\frac{7\pi}{6}$	$\frac{5\pi}{4}$	$\frac{4\pi}{3}$	$\frac{17\pi}{12}$	$\frac{3\pi}{2}$	$\frac{19\pi}{12}$	$\frac{5\pi}{3}$	$\frac{7\pi}{4}$	$\frac{11\pi}{6}$	$\frac{23\pi}{12}$	$2\pi$
$y$						$\infty$						$\infty$

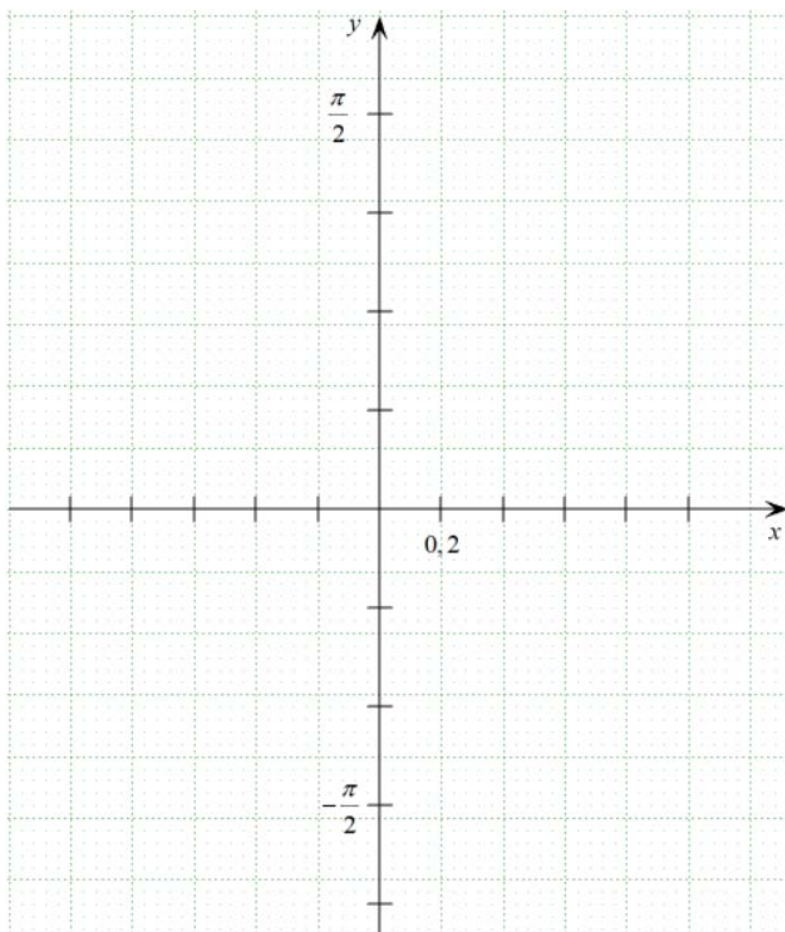


# FUNCIONES TRIGONOMÉTRICAS INVERSAS

**Función arcoseno:**  $y = \arcsen x$

Completa la siguiente tabla, con  $x \in [-1, 1]$  e  $y \in \left[-\frac{\pi}{2}, \frac{\pi}{2}\right]$ .

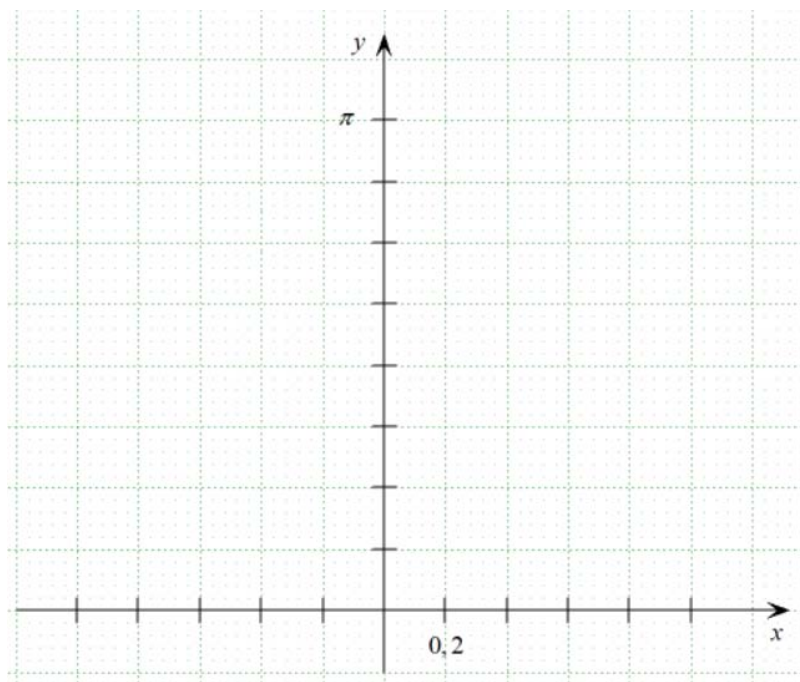
$x$	-1	$-\frac{\sqrt{3}}{2}$	$-\frac{\sqrt{2}}{2}$	$-\frac{1}{2}$	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1
$y$									



**Función arcocoseno:**  $y = \arccos x$

Completa la siguiente tabla, con  $x \in [-1, 1]$  e  $y \in [0, \pi]$ .

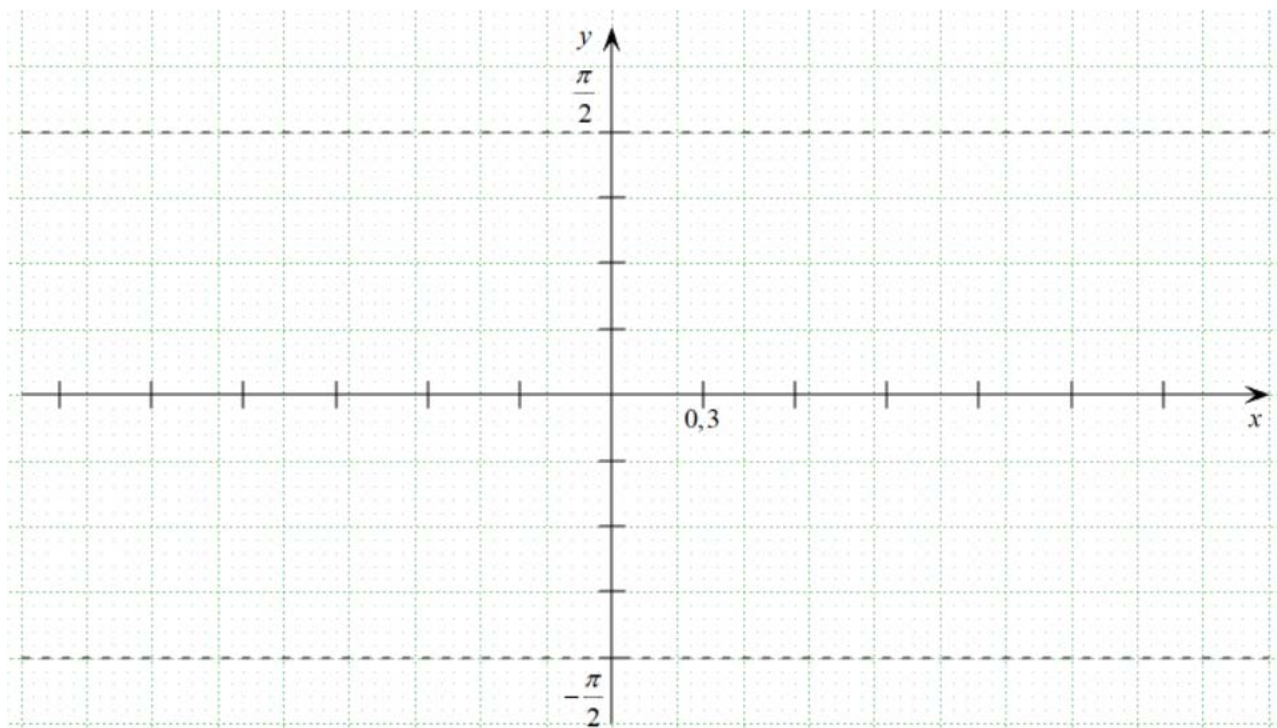
$x$	-1	$-\frac{\sqrt{3}}{2}$	$-\frac{\sqrt{2}}{2}$	$-\frac{1}{2}$	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1
$y$									



**Función arcotangente:**  $y = \operatorname{arctg} x$

Completa la siguiente tabla, con  $x \in \mathbb{R}$  e  $y \in \left(-\frac{\pi}{2}, \frac{\pi}{2}\right)$ .

$x$	$-\infty$	$-\sqrt{3}$	$-1$	$-\frac{\sqrt{3}}{3}$	$0$	$\frac{\sqrt{3}}{3}$	$1$	$\sqrt{3}$	$+\infty$
$y$									



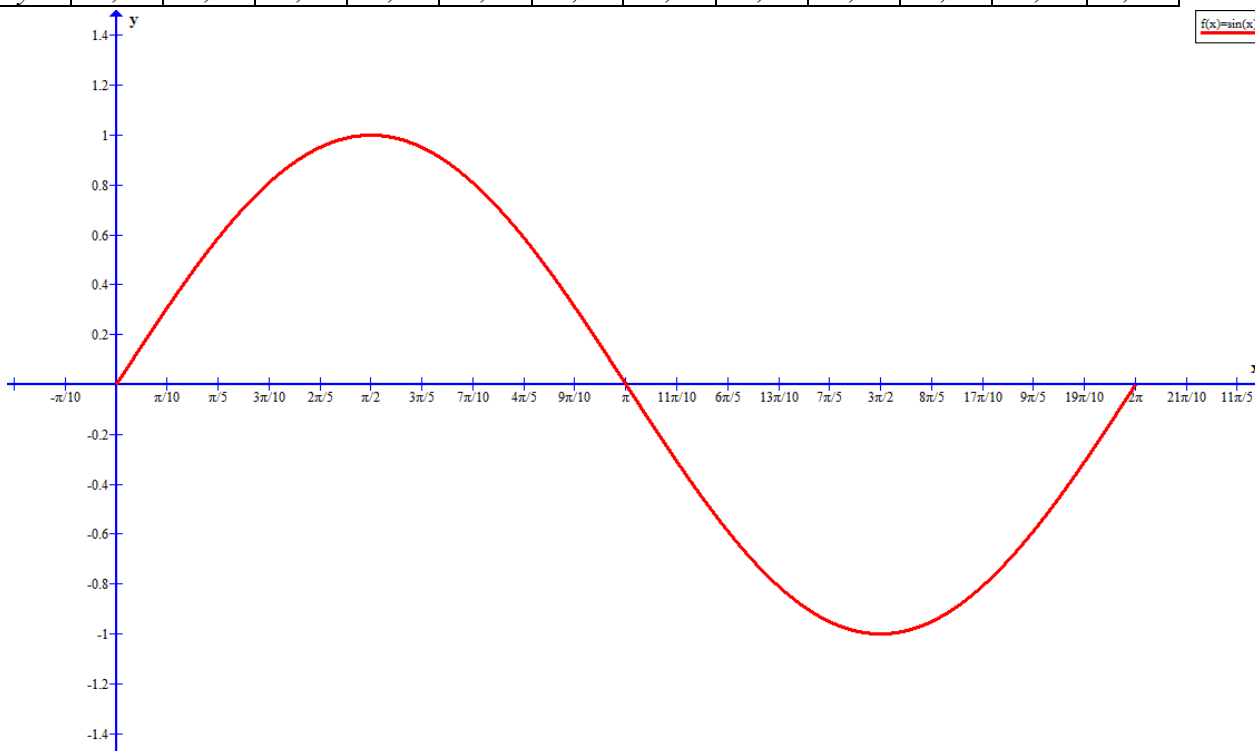
# FUNCIONES TRIGONOMÉTRICAS DIRECTAS

**Función seno:**  $y = \text{sen } x$

Completa la siguiente tabla ( $x$  viene dada en grados sexagesimales y en radianes), con dos decimales.

$x$	0°	15°	30°	45°	60°	75°	90°	105°	120°	135°	150°	165°	180°
	0	$\frac{\pi}{12}$	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{5\pi}{12}$	$\frac{\pi}{2}$	$\frac{7\pi}{12}$	$\frac{2\pi}{3}$	$\frac{3\pi}{4}$	$\frac{5\pi}{6}$	$\frac{11\pi}{12}$	$\pi$
$y$	0,00	0,26	0,50	0,71	0,87	0,97	1,00	0,97	0,87	0,71	0,50	0,26	0,00

$x$	195°	210°	225°	240°	255°	270°	285°	300°	315°	330°	345°	360°
	$\frac{13\pi}{12}$	$\frac{7\pi}{6}$	$\frac{5\pi}{4}$	$\frac{4\pi}{3}$	$\frac{17\pi}{12}$	$\frac{3\pi}{2}$	$\frac{19\pi}{12}$	$\frac{5\pi}{3}$	$\frac{7\pi}{4}$	$\frac{11\pi}{6}$	$\frac{23\pi}{12}$	$2\pi$
$y$	-0,26	-0,50	-0,71	-0,87	-0,97	-1,00	-0,97	-0,87	-0,71	-0,50	-0,26	0,00

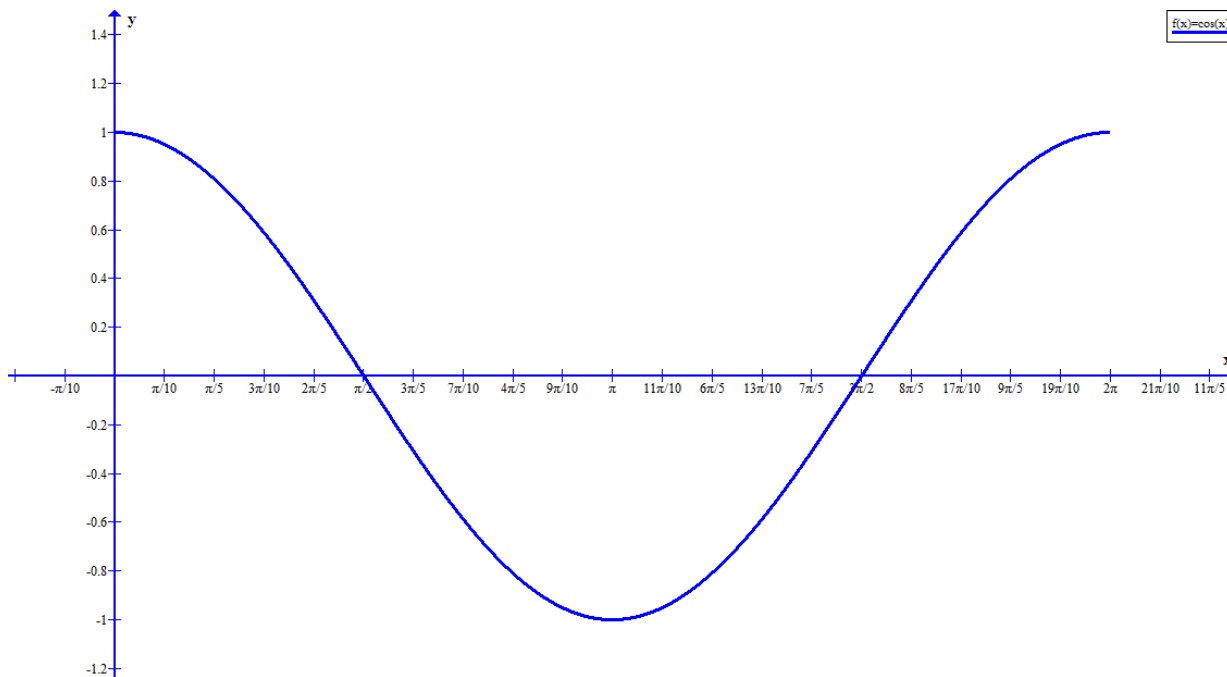


**Función coseno:**  $y = \text{cos } x$

Completa la siguiente tabla ( $x$  viene dada en grados sexagesimales y en radianes), con dos decimales.

$x$	0°	15°	30°	45°	60°	75°	90°	105°	120°	135°	150°	165°	180°
	0	$\frac{\pi}{12}$	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{5\pi}{12}$	$\frac{\pi}{2}$	$\frac{7\pi}{12}$	$\frac{2\pi}{3}$	$\frac{3\pi}{4}$	$\frac{5\pi}{6}$	$\frac{11\pi}{12}$	$\pi$
$y$	1,00	0,97	0,87	0,71	0,50	0,26	0,00	-0,26	-0,50	-0,71	-0,87	-0,97	-1,00

$x$	195°	210°	225°	240°	255°	270°	285°	300°	315°	330°	345°	360°
	$\frac{13\pi}{12}$	$\frac{7\pi}{6}$	$\frac{5\pi}{4}$	$\frac{4\pi}{3}$	$\frac{17\pi}{12}$	$\frac{3\pi}{2}$	$\frac{19\pi}{12}$	$\frac{5\pi}{3}$	$\frac{7\pi}{4}$	$\frac{11\pi}{6}$	$\frac{23\pi}{12}$	$2\pi$
$y$	-0,97	-0,87	-0,71	-0,50	-0,26	0,00	0,26	0,50	0,87	0,87	0,97	1,00

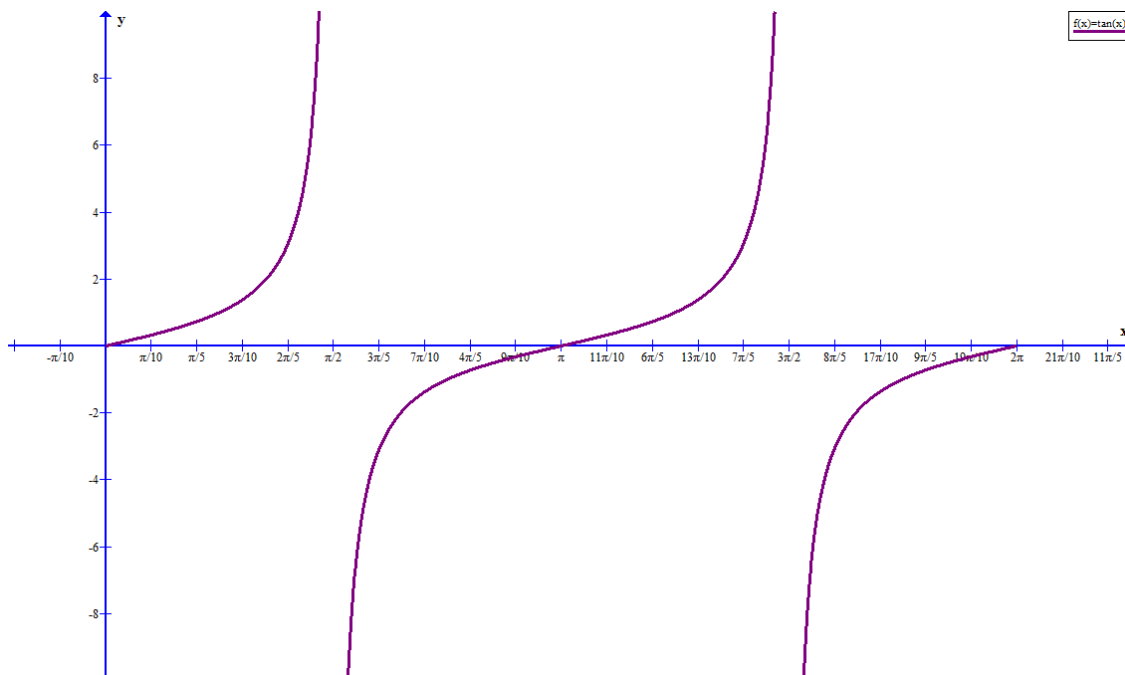


**Función tangente:**  $y = \text{tg } x$

Completa la siguiente tabla ( $x$  viene dada en grados sexagesimales y en radianes), con dos decimales.

$x$	$0^\circ$	$15^\circ$	$30^\circ$	$45^\circ$	$60^\circ$	$75^\circ$	$90^\circ$	$105^\circ$	$120^\circ$	$135^\circ$	$150^\circ$	$165^\circ$	$180^\circ$
	0	$\frac{\pi}{12}$	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{5\pi}{12}$	$\frac{\pi}{2}$	$\frac{7\pi}{12}$	$\frac{2\pi}{3}$	$\frac{3\pi}{4}$	$\frac{5\pi}{6}$	$\frac{11\pi}{12}$	$\pi$
$y$	0,00	0,27	0,58	1,00	1,73	3,73	$\infty$	-3,73	-1,73	-1,00	-0,58	-0,27	0,00

$x$	$195^\circ$	$210^\circ$	$225^\circ$	$240^\circ$	$255^\circ$	$270^\circ$	$285^\circ$	$300^\circ$	$315^\circ$	$330^\circ$	$345^\circ$	$360^\circ$
	$\frac{13\pi}{12}$	$\frac{7\pi}{6}$	$\frac{5\pi}{4}$	$\frac{4\pi}{3}$	$\frac{17\pi}{12}$	$\frac{3\pi}{2}$	$\frac{19\pi}{12}$	$\frac{5\pi}{3}$	$\frac{7\pi}{4}$	$\frac{11\pi}{6}$	$\frac{23\pi}{12}$	$2\pi$
$y$	0,27	0,58	1,00	1,73	3,73	$\infty$	-3,37	-1,73	-1,00	-0,58	-0,27	0,00



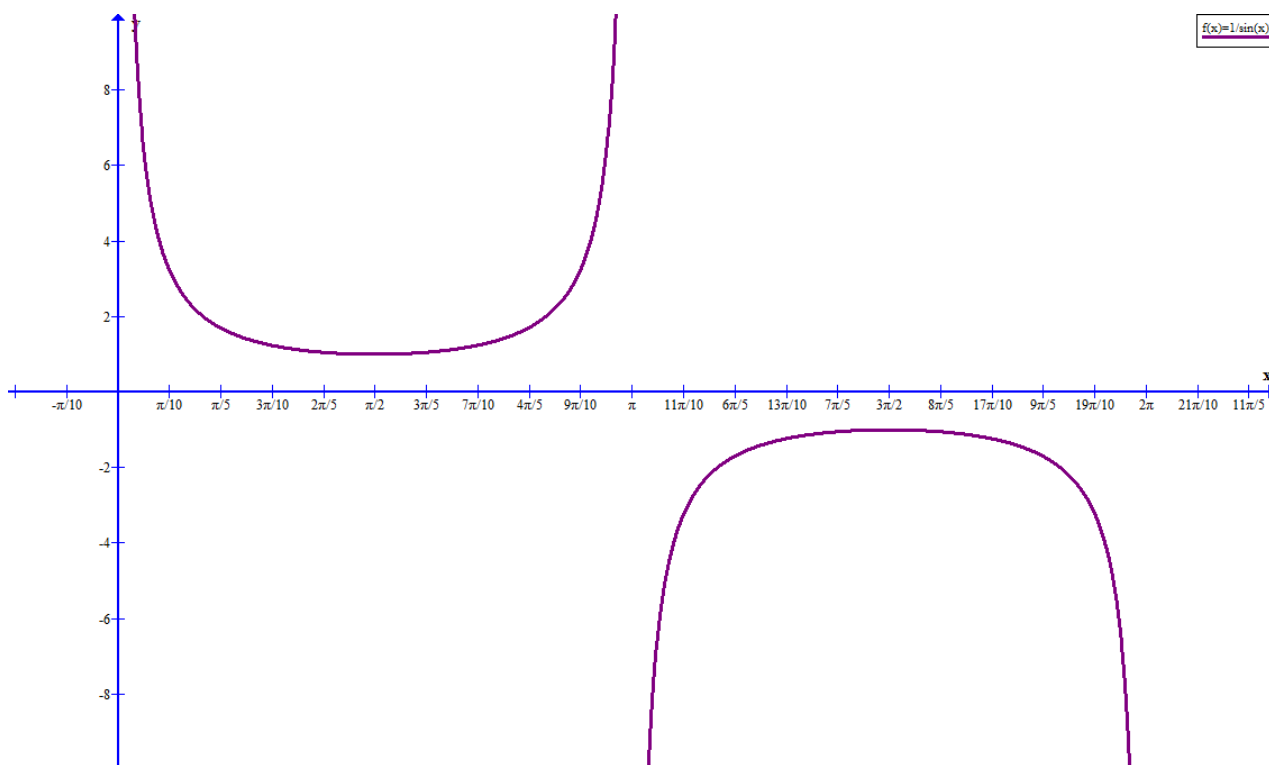


**Función cosecante:**  $y = \operatorname{cosec} x = \frac{1}{\operatorname{sen} x}$

Completa la siguiente tabla ( $x$  viene dada en grados sexagesimales y en radianes), con dos decimales.

$x$	0°	15°	30°	45°	60°	75°	90°	105°	120°	135°	150°	165°	180°
	0	$\frac{\pi}{12}$	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{5\pi}{12}$	$\frac{\pi}{2}$	$\frac{7\pi}{12}$	$\frac{2\pi}{3}$	$\frac{3\pi}{4}$	$\frac{5\pi}{6}$	$\frac{11\pi}{12}$	$\pi$
$y$	$\infty$	3,86	2,00	1,41	1,15	1,04	1,00	1,04	1,15	1,41	2,00	3,86	$\infty$

$x$	195°	210°	225°	240°	255°	270°	285°	300°	315°	330°	345°	360°
	$\frac{13\pi}{12}$	$\frac{7\pi}{6}$	$\frac{5\pi}{4}$	$\frac{4\pi}{3}$	$\frac{17\pi}{12}$	$\frac{3\pi}{2}$	$\frac{19\pi}{12}$	$\frac{5\pi}{3}$	$\frac{7\pi}{4}$	$\frac{11\pi}{6}$	$\frac{23\pi}{12}$	$2\pi$
$y$	-3,86	-2,00	-1,41	-1,15	-1,04	-1,00	-1,04	-1,15	-1,41	-2,00	-3,86	$\infty$

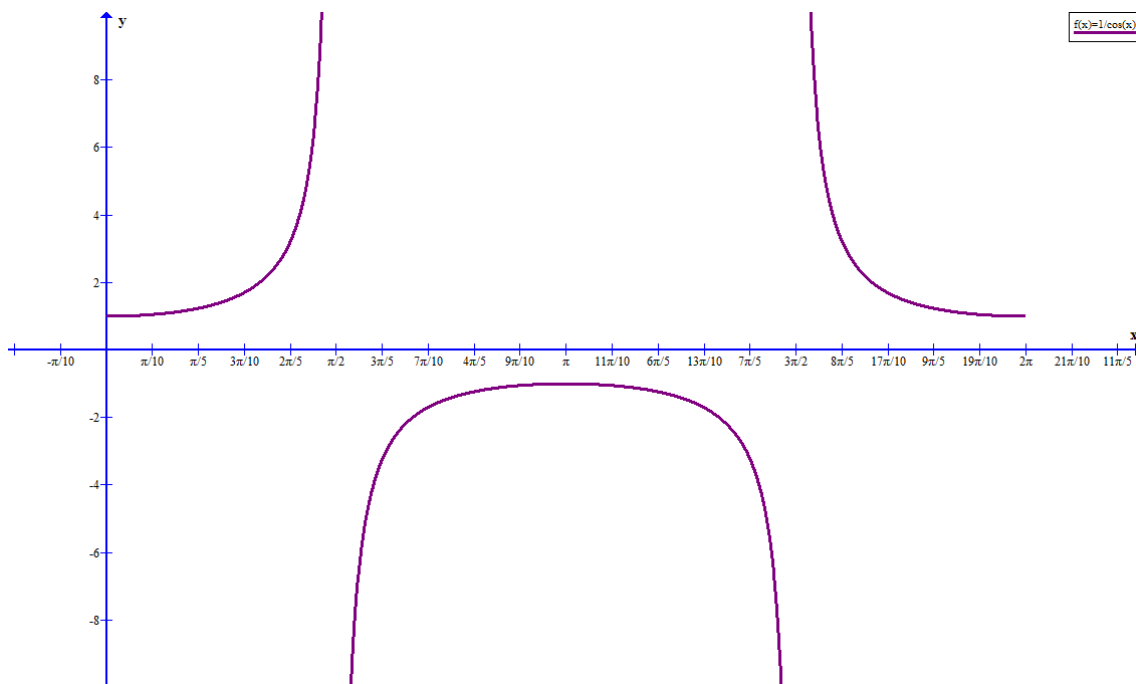


**Función secante:**  $y = \operatorname{sec} x = \frac{1}{\operatorname{cos} x}$

Completa la siguiente tabla ( $x$  viene dada en grados sexagesimales y en radianes), con dos decimales.

$x$	0°	15°	30°	45°	60°	75°	90°	105°	120°	135°	150°	165°	180°
	0	$\frac{\pi}{12}$	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{5\pi}{12}$	$\frac{\pi}{2}$	$\frac{7\pi}{12}$	$\frac{2\pi}{3}$	$\frac{3\pi}{4}$	$\frac{5\pi}{6}$	$\frac{11\pi}{12}$	$\pi$
$y$	1,00	1,04	1,15	1,41	2,00	3,86	$\infty$	-3,86	-2,00	-1,41	-1,15	-1,04	-1,00

$x$	195°	210°	225°	240°	255°	270°	285°	300°	315°	330°	345°	360°
	$\frac{13\pi}{12}$	$\frac{7\pi}{6}$	$\frac{5\pi}{4}$	$\frac{4\pi}{3}$	$\frac{17\pi}{12}$	$\frac{3\pi}{2}$	$\frac{19\pi}{12}$	$\frac{5\pi}{3}$	$\frac{7\pi}{4}$	$\frac{11\pi}{6}$	$\frac{23\pi}{12}$	$2\pi$
$y$	-1,04	-1,15	-1,41	-2,00	-3,86	$\infty$	3,86	2,00	1,41	1,15	1,04	1,00

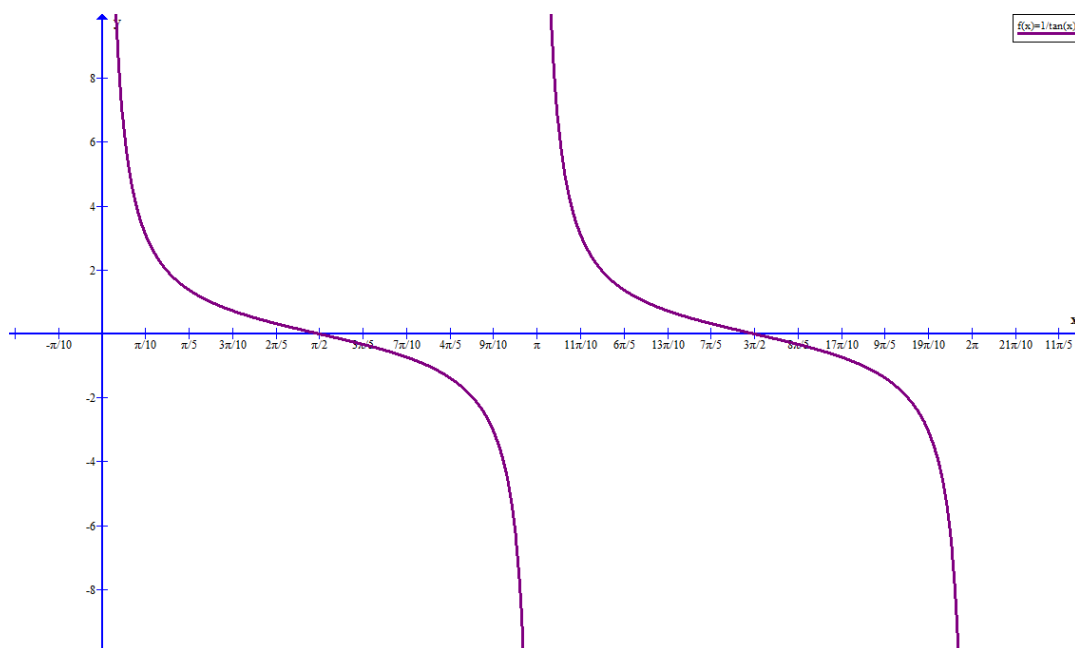


**Función cotangente:**  $y = \text{cotg } x = \frac{1}{\text{tg } x}$

Completa la siguiente tabla ( $x$  viene dada en grados sexagesimales y en radianes)

$x$	0°	15°	30°	45°	60°	75°	90°	105°	120°	135°	150°	165°	180°
	0	$\frac{\pi}{12}$	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{5\pi}{12}$	$\frac{\pi}{2}$	$\frac{7\pi}{12}$	$\frac{2\pi}{3}$	$\frac{3\pi}{4}$	$\frac{5\pi}{6}$	$\frac{11\pi}{12}$	$\pi$
$y$	$\infty$	3,73	1,73	1,00	0,58	0,27	0	-0,27	-0,58	-1,00	-1,73	-3,73	$\infty$

$x$	195°	210°	225°	240°	255°	270°	285°	300°	315°	330°	345°	360°
	$\frac{13\pi}{12}$	$\frac{7\pi}{6}$	$\frac{5\pi}{4}$	$\frac{4\pi}{3}$	$\frac{17\pi}{12}$	$\frac{3\pi}{2}$	$\frac{19\pi}{12}$	$\frac{5\pi}{3}$	$\frac{7\pi}{4}$	$\frac{11\pi}{6}$	$\frac{23\pi}{12}$	$2\pi$
$y$	3,73	1,73	1,00	0,58	0,27	0	-0,27	-0,58	-1,00	-1,73	-3,73	$\infty$

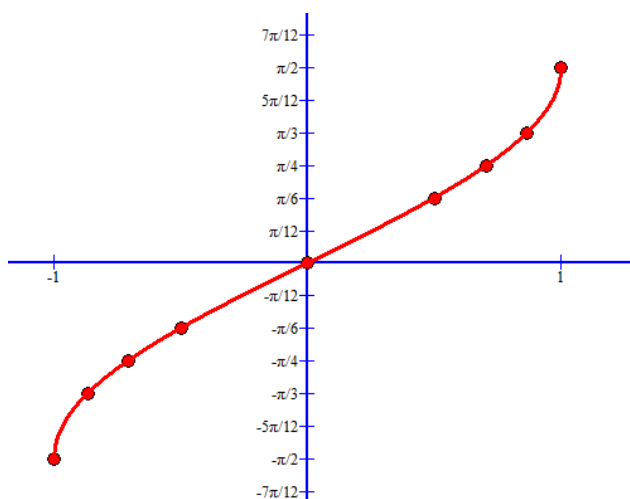


# FUNCIONES TRIGONOMÉTRICAS INVERSAS

**Función arcoseno:**  $y = \arcsen x$

Completa la siguiente tabla, con  $x \in [-1,1]$  e  $y \in \left[-\frac{\pi}{2}, \frac{\pi}{2}\right]$ .

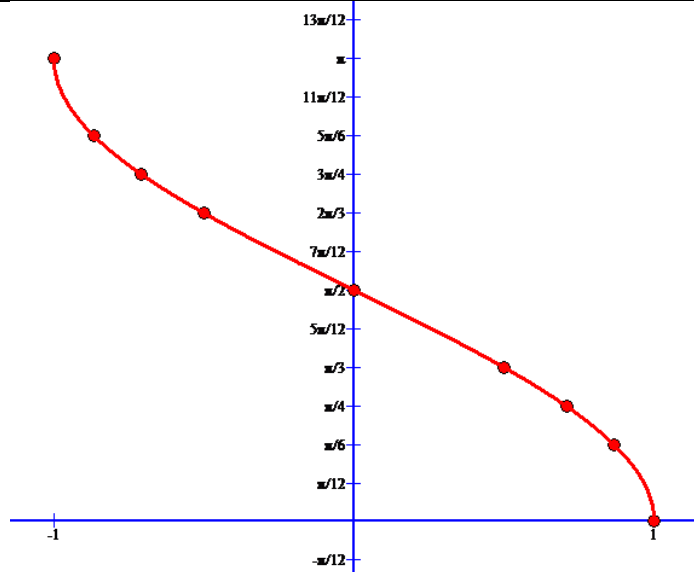
$x$	-1	$-\frac{\sqrt{3}}{2}$	$-\frac{\sqrt{2}}{2}$	$-\frac{1}{2}$	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1
$y$	$-\frac{\pi}{2}$	$-\frac{\pi}{3}$	$-\frac{\pi}{4}$	$-\frac{\pi}{6}$	0	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{\pi}{2}$



**Función arcocoseno:**  $y = \arccos x$

Completa la siguiente tabla, con  $x \in [-1,1]$  e  $y \in [0, \pi]$ .

$x$	-1	$-\frac{\sqrt{3}}{2}$	$-\frac{\sqrt{2}}{2}$	$-\frac{1}{2}$	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1
$y$	$\pi$	$\frac{5\pi}{6}$	$\frac{3\pi}{4}$	$\frac{2\pi}{3}$	$\frac{\pi}{2}$	$\frac{\pi}{3}$	$\frac{\pi}{4}$	$\frac{\pi}{6}$	0



**Función arcotangente:**  $y = \operatorname{arctg} x$

Completa la siguiente tabla, con  $x \in \mathbb{R}$  e  $y \in \left(-\frac{\pi}{2}, \frac{\pi}{2}\right)$ .

$x$	$-\infty$	$-\sqrt{3}$	$-1$	$-\frac{\sqrt{3}}{3}$	$0$	$\frac{\sqrt{3}}{3}$	$1$	$\sqrt{3}$	$+\infty$
$y$	$-\frac{\pi}{2}$	$-\frac{\pi}{3}$	$-\frac{\pi}{4}$	$-\frac{\pi}{6}$	$0$	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{\pi}{2}$

