

Proprietăți ale funcțiilor trigonometrice	
Mărginirea	
$-1 \leq \sin x \leq 1, \forall x \in \mathbb{R}$	$-1 \leq \cos x \leq 1, \forall x \in \mathbb{R}$
Paritatea	
$\sin(-x) = -\sin x$	$tg(-x) = -tg x$
$\cos(-x) = \cos x$	$ctg(-x) = -ctg x$
<i>Observație! cos este funcției pară, sin, tg, ctg funcții impare</i>	
Periodicitatea	
$\sin(x + 2k\pi) = \sin x, \forall x \in \mathbb{R}, k \in \mathbb{Z}$	$tg(x + k\pi) = tg x, \forall x \in \mathbb{R} \setminus \left(\frac{\pi}{2} + \mathbb{Z}\pi\right), k \in \mathbb{Z}$
$\cos(x + 2k\pi) = \cos x, \forall x \in \mathbb{R}, k \in \mathbb{Z}$	$ctg(x + k\pi) = ctg x, \forall x \in \mathbb{R} \setminus (\mathbb{Z}\pi), k \in \mathbb{Z}$

Formule trigonometrice	
Formula fundamentală a trigonometriei	
$\sin^2 x + \cos^2 x = 1, \forall x \in \mathbb{R}$	
$\sin(90^\circ - x) = \cos x$	$\sin(180^\circ - x) = \sin x$
$\cos(90^\circ - x) = \sin x$	$\cos(180^\circ - x) = -\cos x$
$\sin(a + b) = \sin a \cos b + \cos a \sin b$	$\sin(a - b) = \sin a \cos b - \cos a \sin b$
$\cos(a + b) = \cos a \cos b - \sin a \sin b$	$\cos(a - b) = \cos a \cos b + \sin a \sin b$
$\sin 2x = 2 \sin x \cos x$	$\cos 2x = \cos^2 x - \sin^2 x$
$\cos 2x = 2 \cos^2 x - 1$	$\cos 2x = 1 - 2 \sin^2 x$
$tg x = \frac{\sin x}{\cos x}$	$ctg x = \frac{\cos x}{\sin x}$

$tg(a + b) = \frac{tg a + tg b}{1 - tga tgb}$	$tg(a - b) = \frac{tg a - tg b}{1 + tga tgb}$
$tg 2x = \frac{2tgx}{1 - tg^2x}$	$tg \frac{x}{2} = \frac{\sin x}{1 + \cos x}$
$\sin x = \frac{2tg \frac{x}{2}}{1 + tg^2 \frac{x}{2}}$	$\cos x = \frac{1 - tg^2 \frac{x}{2}}{1 + tg^2 \frac{x}{2}}$
Transformarea unor sume în produs	
$\sin a + \sin b = 2 \sin \frac{a+b}{2} \cdot \cos \frac{a-b}{2}$	$\cos a + \cos b = 2 \cos \frac{a+b}{2} \cdot \cos \frac{a-b}{2}$
$\sin a - \sin b = 2 \sin \frac{a-b}{2} \cdot \cos \frac{a+b}{2}$	$\cos a - \cos b = -2 \sin \frac{a+b}{2} \cdot \sin \frac{a-b}{2}$