

XIII. Soluțiile ecuațiilor trigonometrice simple

XIII.1. Ecuații fundamentale

1. $\sin x = a, a \in [-1, 1] \Rightarrow x \in \{(-1)^k \arcsin a + k\pi | k \in \mathbb{Z}\}$

2. $\cos x = a, a \in [-1, 1] \Rightarrow x \in \{\pm \arccos a + 2k\pi | k \in \mathbb{Z}\}$

3. $\operatorname{tg} x = a, a \in \mathbb{R} \Rightarrow x \in \{\operatorname{arctg} a + k\pi | k \in \mathbb{Z}\}$

4. $\operatorname{ctg} x = a, a \in \mathbb{R} \Rightarrow x \in \{\operatorname{arccctg} a + k\pi | k \in \mathbb{Z}\}$

XIII.2. Tabele de valori:

<u>x</u>	0	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{\pi}{2}$	π	$\frac{3\pi}{2}$	2π
funcția								
sin x	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1	0	-1	0
cos x	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	0	-1	0	1

<u>x</u>	0	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{\pi}{2}$	π	$\frac{3\pi}{2}$	2π
funcția								
tg x	0	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	/	0	/	0
ctg x	/	$\sqrt{3}$	1	$\frac{\sqrt{3}}{3}$	0	/	0	/

<u>x</u>	-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
funcția									
arcsin x	$-\frac{\pi}{2}$	$-\frac{\pi}{3}$	$-\frac{\pi}{4}$	$-\frac{\pi}{6}$	0	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{\pi}{2}$
arccos x	π	$\frac{5\pi}{6}$	$\frac{3\pi}{4}$	$\frac{2\pi}{3}$	$\frac{\pi}{2}$	$\frac{\pi}{3}$	$\frac{\pi}{4}$	$\frac{\pi}{6}$	0

<u>x</u>	$-\sqrt{3}$	-1	$-\frac{\sqrt{3}}{3}$	0	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$
funcția							
arctg x	$-\frac{\pi}{3}$	$-\frac{\pi}{4}$	$-\frac{\pi}{6}$	0	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$
arccctg x	$\frac{5\pi}{6}$	$\frac{3\pi}{4}$	$\frac{2\pi}{3}$	$\frac{\pi}{2}$	$\frac{\pi}{3}$	$\frac{\pi}{4}$	$\frac{\pi}{6}$

