

Last minute Trigonometry

$$\begin{aligned}\sin(90-x) &= \cos x \\ \cos(90-x) &= \sin x \\ \tan(90-x) &= 1/\tan x\end{aligned}$$

$$\begin{aligned}\sin(90+x) &= \cos x \\ \cos(90+x) &= -\sin x \\ \tan(90+x) &= -1/\tan x = -\cot x\end{aligned}$$

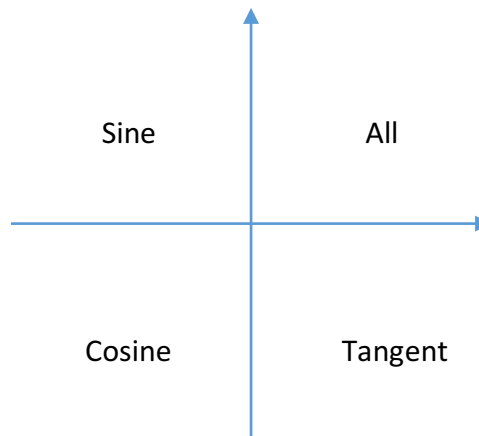
$$\begin{aligned}\sin(180-x) &= \sin x \\ \cos(180-x) &= -\cos x \\ \tan(180-x) &= -\tan x\end{aligned}$$

$$\begin{aligned}\sin(180+x) &= -\cos x \\ \cos(180+x) &= -\sin x \\ \tan(180+x) &= 1/\tan x = \cot x\end{aligned}$$

$$\begin{aligned}\sin(270-x) &= -\cos x \\ \cos(270-x) &= -\sin x \\ \tan(270-x) &= \tan x\end{aligned}$$

$$\begin{aligned}\sin(270+x) &= -\cos x \\ \cos(270+x) &= \sin x \\ \tan(270+x) &= -1/\tan x = -\cot x\end{aligned}$$

$$\begin{aligned}\sin(360-x) &= -\sin x \\ \cos(360-x) &= \cos x \\ \tan(360-x) &= -\tan x\end{aligned}$$



Ranges of the trigonometry functions

For any x ,

$$\begin{aligned}-1 &< \sin x < 1 \\ -1 &< \cos x < 1\end{aligned}$$

Tangent: All real numbers.