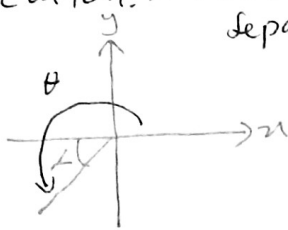


# Nisbah dan Graf Fungsi Trigonometry

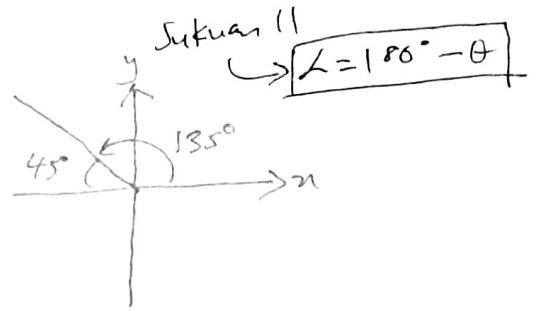
Sudut II y Sudut I (Semua +)  
 Sin + All +  
 Sudut III Sudut IV  
 Tan + Kos +  
 SSTK

Contoh: - Sudut Rujukan Sepadan



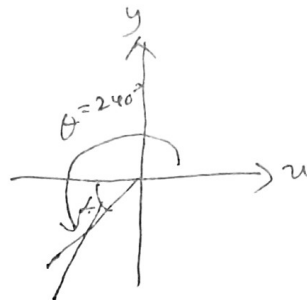
$$\alpha = \theta - 180^\circ$$

$$\tan 225^\circ = + \tan 45^\circ = +1$$



$$\begin{aligned} \cos 135^\circ &= -\cos(180^\circ - 135^\circ) \\ &= -\cos 45^\circ \\ &= -\frac{1}{\sqrt{2}} \end{aligned}$$

$\theta$	$30^\circ$	$60^\circ$	$45^\circ$
$\sin \theta$	$\frac{1}{2}$	$\frac{\sqrt{3}}{2}$	$\frac{1}{\sqrt{2}}$
$\cos \theta$	$\frac{\sqrt{3}}{2}$	$\frac{1}{2}$	$\frac{1}{\sqrt{2}}$
$\tan \theta$	$\frac{1}{\sqrt{3}}$	$\sqrt{3}$	$1$



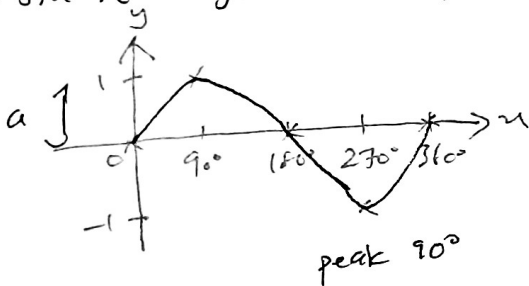
Jaj  $\theta = 240^\circ$

So sudut sepadan  $\alpha = 240^\circ - 180^\circ = 60^\circ$

$$\therefore \tan 240^\circ = \tan 60^\circ = \sqrt{3}$$

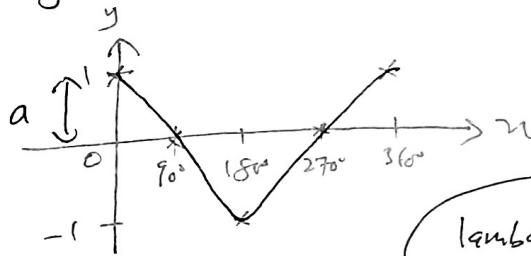
Sudut III  $\alpha = \theta - 180^\circ$

$y = \sin x$  bagi  $0^\circ \leq x \leq 360^\circ$



peak  $90^\circ$   
 trough  $270^\circ$   
 cycle =  $360^\circ$

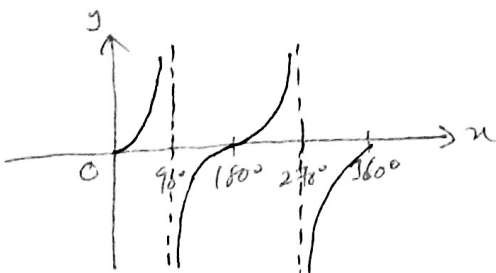
$y = \cos x$  bagi  $0^\circ \leq x \leq 360^\circ$



cycle =  $360^\circ$

lambat  $90^\circ!$   
 a-amplitude

$y = \tan x$  bagi  $0^\circ \leq x \leq 360^\circ$



no peak/trough

cycle =  $180^\circ$

## General Equation

$$y = a \sin bx + c$$

a-amplitude

b-frequency

c-translation

- arah ke garis tengah.

garis tengah ke puncak

$$b = \frac{360^\circ}{t}$$

t ↓, b ↑  
 t ↑, b ↓

t - period for 1 cycle!!