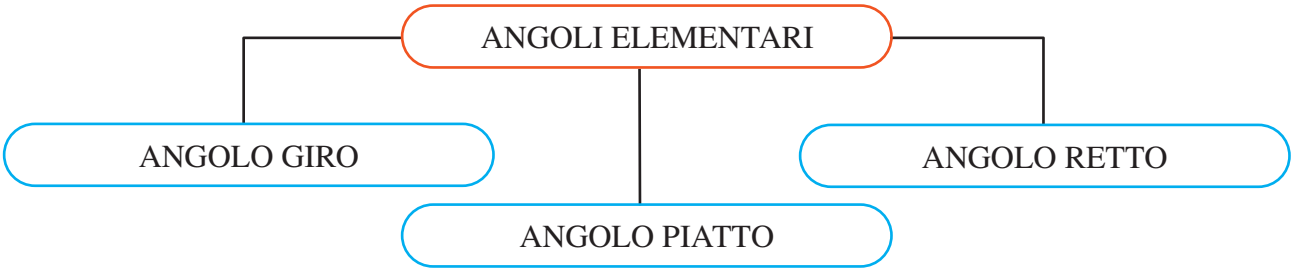
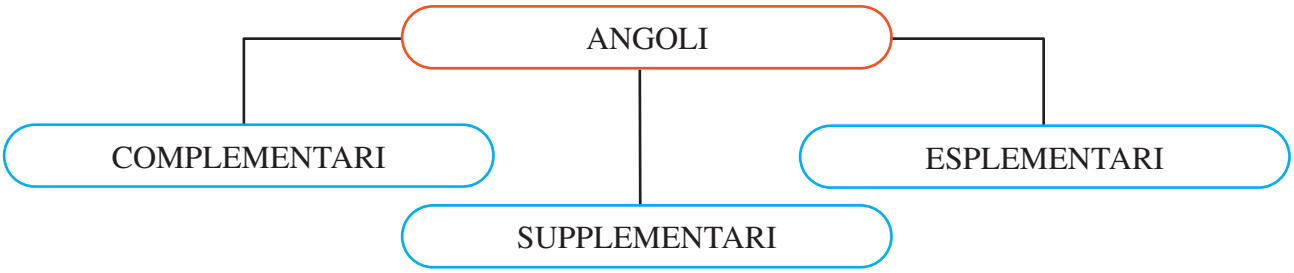
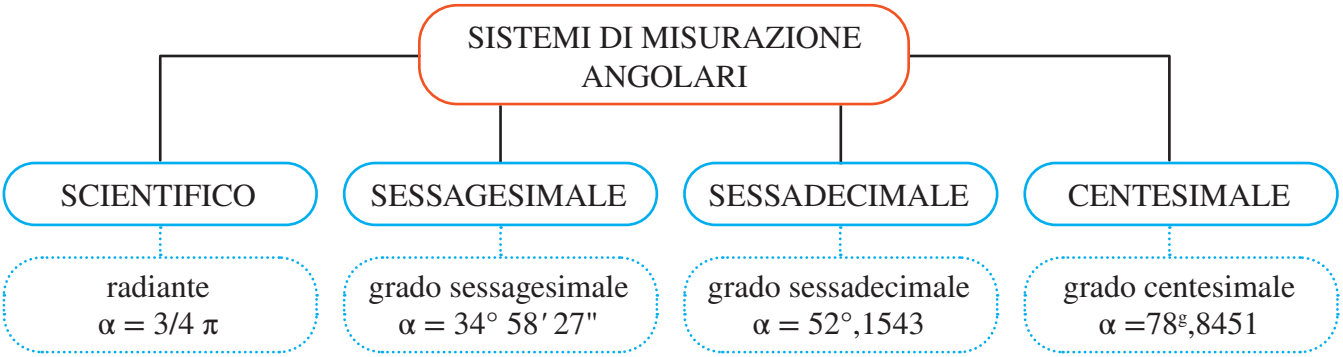
topograficamente

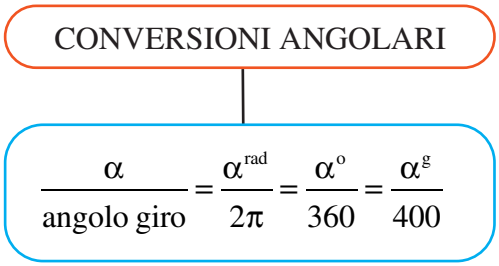
modulo 1

TRIGONOMETRIA PIANA



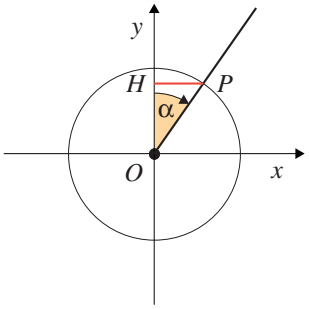






FUNZIONE SENO

DEFINIZIONE



$$PH = X_P$$

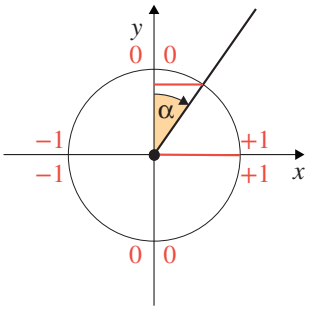
$$PO = 1$$

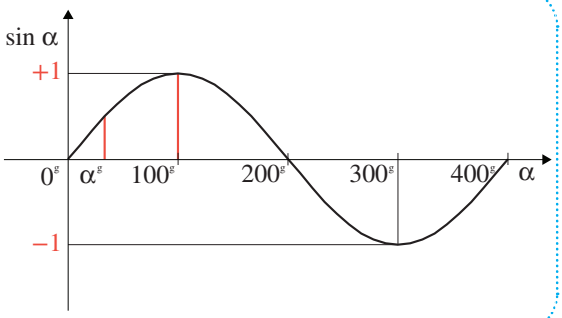
$$\sin\alpha = \frac{PH}{PO} = X_P$$

GRAFICO

$-1 \leq \sin\alpha \leq +1$

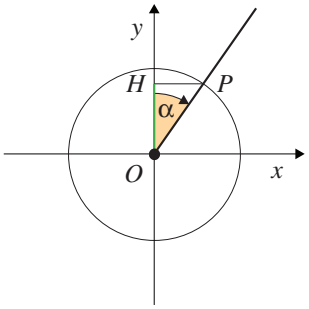
$\sin 0^g = 0$
$\sin 100^g = +1$
$\sin 200^g = 0$
$\sin 300^g = -1$
$\sin 400^g = \sin 0^g$
...





FUNZIONE COSENO

DEFINIZIONE



$$HO = Y_P$$

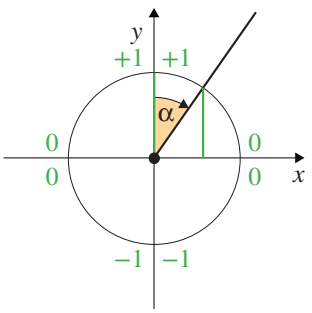
$$PO = 1$$

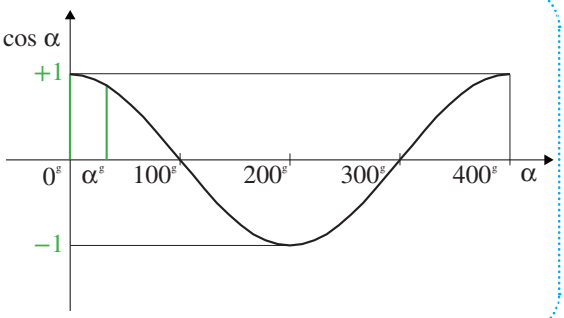
$$\cos\alpha = \frac{HO}{PO} = Y_P$$

GRAFICO

$-1 \leq \cos\alpha \leq +1$

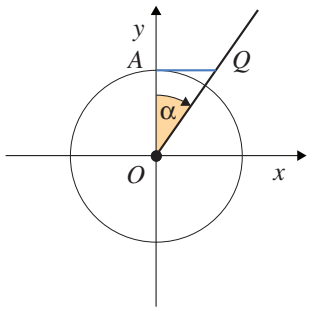
$\cos 0^g = +1$
$\cos 100^g = 0$
$\cos 200^g = -1$
$\cos 300^g = 0$
$\cos 400^g = \cos 0^g$
...





FUNZIONE TANGENTE

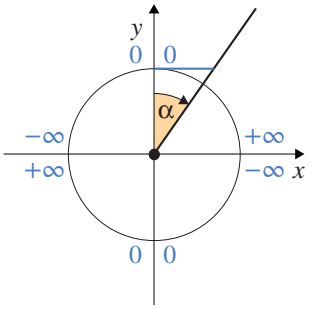
DEFINIZIONE

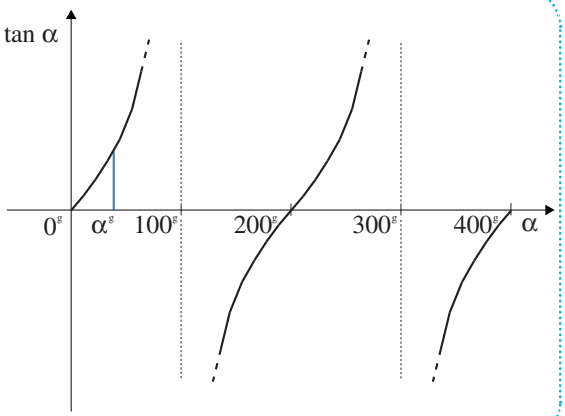


GRAFICO

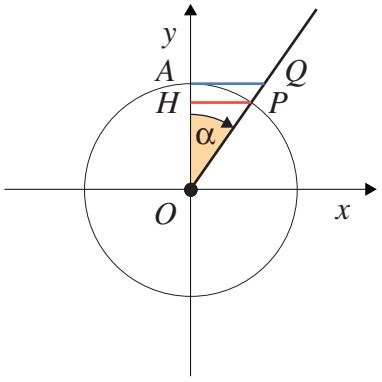
$-\infty \leq \tan\alpha \leq +\infty$

$\tan 0^g = 0$
$\tan 100^g = \infty$
$\tan 200^g = 0$
$\tan 300^g = \infty$
$\tan 400^g = \tan 0^g$
...





RELAZIONE CON SENO E COSENO



$$\frac{AQ}{AO} = \frac{HP}{HO}$$

$AQ = \tan\alpha$

$AO = 1$

$HP = \sin\alpha$

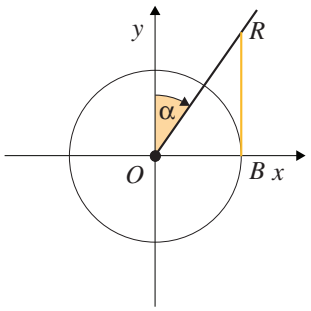
$HO = \cos\alpha$

$$\tan\alpha = \frac{\sin\alpha}{\cos\alpha}$$

$$\tan\alpha = \frac{1}{\cot\alpha} = \frac{\sin\alpha}{\cos\alpha}$$

FUNZIONE COTANGENTE

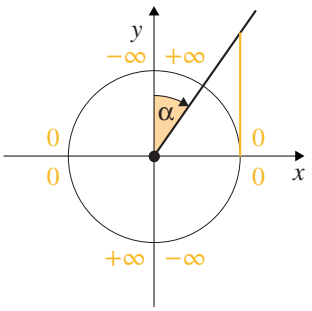
DEFINIZIONE

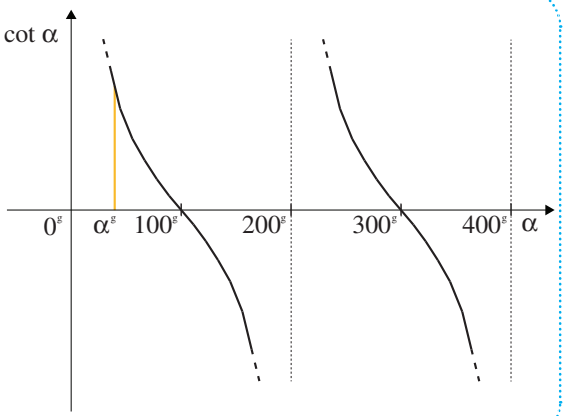


GRAFICO

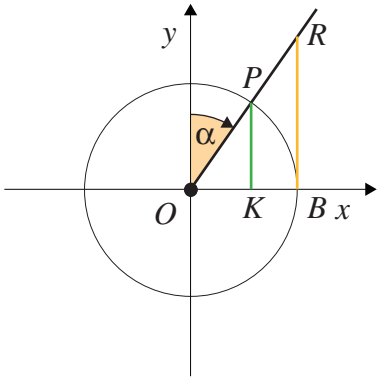
$$-\infty \leq \cot \alpha \leq +\infty$$

$\cot 0^g = \infty$
$\cot 100^g = 0$
$\cot 200^g = \infty$
$\cot 300^g = 0$
$\cot 400^g = \cot 0^g$
...





RELAZIONE CON COSENO E SENO



$$\frac{BR}{BO} = \frac{KP}{KO}$$

$BR = \cot \alpha$

$BO = 1$

$KP = \cos \alpha$

$KO = \sin \alpha$

$$\cot \alpha = \frac{1}{\tan \alpha} = \frac{\cos \alpha}{\sin \alpha}$$

$$\cot \alpha = \frac{\cos \alpha}{\sin \alpha}$$