venerdì 3 novembre 2023 10:22

ANGOLI ASSOCIATI

Angoli associati 1 di 1

angoli complementari (I quadrante)	angoli che differiscono di 90° (II quadrante)
$sen\left(\frac{\pi}{2}-\alpha\right)=cos\ \alpha$	$sen\left(\frac{\pi}{2}+\alpha\right)=-cos\ \alpha$
$cos\left(\frac{\pi}{2}-\alpha\right)=sen\ \alpha$	$cos\left(\frac{\pi}{2}+\alpha\right)=sen\ \alpha$
$tg\left(\frac{\pi}{2}-\alpha\right)=cotg\ \alpha$	$tg\left(\frac{\pi}{2}+\alpha\right)=cotg\ \alpha$
$cotg\left(\frac{\pi}{2}-\alpha\right)=tag\ \alpha$	$cotg\left(\frac{\pi}{2}+\alpha\right)=tg\ \alpha$
angoli supplementari (II quadrante)	**angoli che differiscono di 180° (III quadrante)**
$sen(\pi-\alpha)=sen\,\alpha$	$sen(\pi+\alpha)=-sen\,\alpha$
$cos(\pi-\alpha)=-cos\,\alpha$	$cos(\pi+\alpha)=-cos\,\alpha$
$tg(\pi-\alpha)=-tg\,\alpha$	$tg(\pi+\alpha)=-tg\,\alpha$
$cotg(\pi-\alpha)=-cotg\,\alpha$	$cotg(\pi+\alpha)=-cotg\,\alpha$
angoli la cui somma è 270° (III quadrante)	**angoli che differiscono di 270° (IV quadrante)**
$sen\left(\frac{3}{2}\pi-\alpha\right)=-sen\,\alpha$	$sen\left(\frac{3}{2}\pi+\alpha\right)=-sen\,\alpha$
$cos\left(\frac{3}{2}\pi-\alpha\right)=-cos\,\alpha$	$cos\left(\frac{3}{2}\pi+\alpha\right)=cos\,\alpha$
$tg\left(\frac{3}{2}\pi-\alpha\right)=tg\,\alpha$	$tg\left(\frac{3}{2}\pi+\alpha\right)=-tg\,\alpha$
$cotg\left(\frac{3}{2}\pi-\alpha\right)=cotg\,\alpha$	$cotg\left(\frac{3}{2}\pi+\alpha\right)=-cotg\,\alpha$
angoli esplementari (IV quadrante)	**angoli opposti (IV quadrante)**
$sen(2\pi-\alpha)=-sen\,\alpha$	$sen(-\alpha)=-sen\,\alpha$
$cos(2\pi-\alpha)=cos\,\alpha$	$cos(-\alpha)=cos\,\alpha$
$tg(2\pi-\alpha)=-tg\,\alpha$	$tg(-\alpha)=-tg\,\alpha$
$cotg(2\pi-\alpha)=-cotg\,\alpha$	$cotg(-\alpha)=-cotg\,\alpha$

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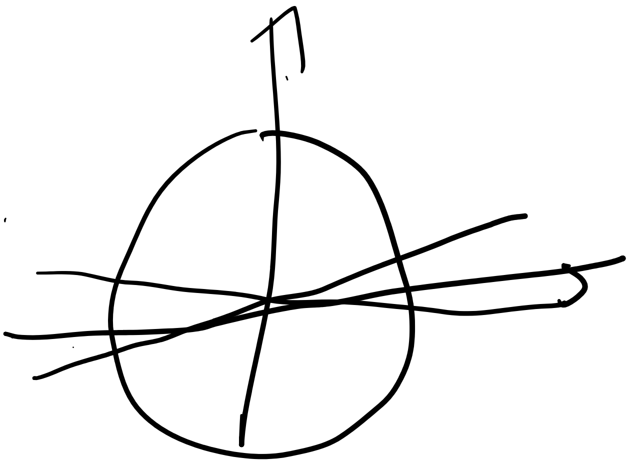
ANGOLI NOTEVOLI

Angolo		Seno	Coseno	Tangente	Cotangente
Radianti	Gradi				
0	0°	0	1	0	∞
$\frac{\pi}{6}$	30°	$\frac{1}{2}$	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{3}}{3}$	$\sqrt{3}$
$\frac{\pi}{4}$	45°	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{2}}{2}$	1	1
$\frac{\pi}{3}$	60°	$\frac{\sqrt{3}}{2}$	$\frac{1}{2}$	$\sqrt{3}$	$\frac{\sqrt{3}}{3}$
$\frac{\pi}{2}$	90°	1	0	∞	0
π	180°	0	-1	0	∞
$\frac{3\pi}{2}$	270°	-1	0	∞	0
2π	360°	0	1	0	∞



FORMULA FONDAMENTALE

$\rightarrow \sin^2(x) + \cos^2(x) = 1$

SOMMA E DIFFER. DEL SENO (PROSTAFERESI)

$$\cos(\alpha-\beta) = \cos\alpha\,\cos\beta + \sin\alpha\,\sin\beta$$

$$\cos(\alpha+\beta) = \cos\alpha\,\cos\beta - \sin\alpha\,\sin\beta$$

$$\sin(\alpha+\beta) = \sin\alpha\,\cos\beta + \cos\alpha\,\sin\beta$$

$$\sin(\alpha-\beta) = \sin\alpha\,\cos\beta - \cos\alpha\,\sin\beta$$

FORMULE DI DUPLICAZIONE

FORMULE DI DUPLICAZIONE

$$\sin(2\alpha) = 2\sin\alpha\cos\alpha$$

$$\cos(2\alpha) = \cos^2\alpha - \sin^2\alpha$$

$$\tan\alpha = \frac{\operatorname{sen}\alpha}{\cos\alpha}$$

TANGENTE

$$\tan(\alpha+\beta) = \frac{\sin(\alpha+\beta)}{\cos(\alpha+\beta)} \rightarrow \tan(\alpha+\beta) = \frac{\frac{\sin\alpha}{\cos\alpha} + \frac{\sin\beta}{\cos\beta}}{1 - \frac{\sin\alpha}{\cos\alpha}\frac{\sin\beta}{\cos\beta}}$$

$$\tan(\alpha-\beta) = \frac{\tan\alpha - \tan\beta}{1 + \tan\alpha\,\tan\beta} \rightarrow \tan(\alpha-\beta) = \frac{\tan\alpha + \tan(-\beta)}{1 - \tan\alpha\,\tan(-\beta)}$$