ARCHI ASSOCIATI

M4008

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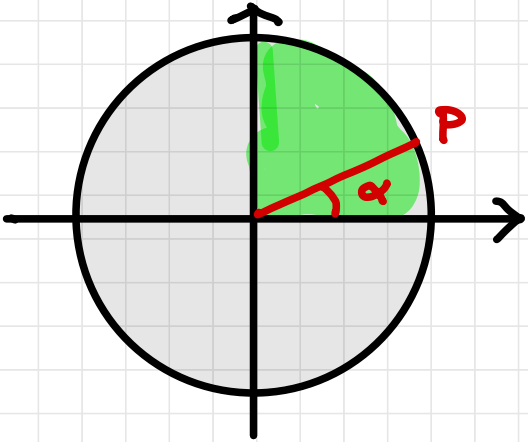
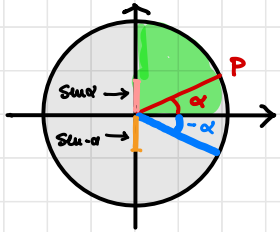


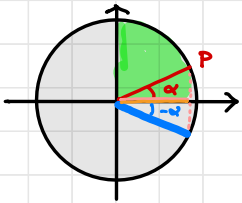
$\sin(-\alpha)$



$= -\sin\alpha$

$\sin(-45°) = -\sin 45° = -\frac{\sqrt{2}}{2}$

$\cos(-\alpha)$

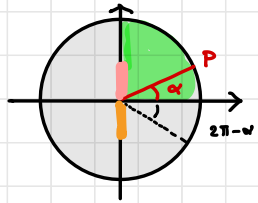


$= \cos\alpha$

$\cos(-30°) = \cos 30° = \frac{\sqrt{3}}{2}$

$tg(-\alpha) = -tg\,\alpha$

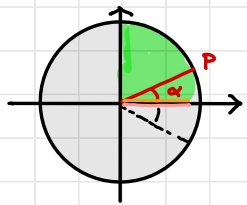
$\operatorname{sen}(2\pi - \alpha)$



$= -\operatorname{sen}\alpha$

$\operatorname{sen}\left(2\pi - \frac{\pi}{6}\right) = \operatorname{sen}\left(\frac{11}{6}\pi\right) = -\operatorname{sen}\frac{\pi}{6} = -\frac{1}{2}$

$\cos(2\pi - \alpha)$



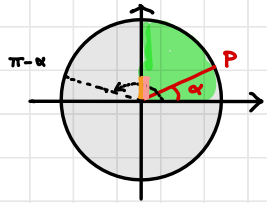
$= \cos\alpha$

$\operatorname{tg}(2\pi - \alpha) = -\operatorname{tg}\alpha$

$\cos\left(2\pi - \frac{\pi}{4}\right) = \cos\left(\frac{11}{4}\pi\right) = \cos\frac{\pi}{4} = \frac{\sqrt{2}}{2}$

$\operatorname{sen}(\pi - \alpha)$

$= \operatorname{sen} \alpha$

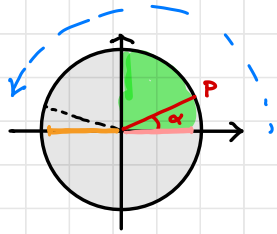


$\operatorname{sen}\left(\pi - \frac{\pi}{3}\right) =$

$= \operatorname{sen}\left(\frac{2}{3}\pi\right) = \operatorname{sen}\frac{\pi}{3} = \frac{\sqrt{3}}{2}$

$\cos(\pi - \alpha)$

$= -\cos \alpha$



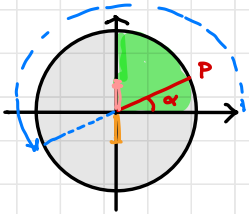
$\cos(150^\circ) = \cos(180^\circ - 30^\circ)$

$= -\cos 30^\circ = -\frac{\sqrt{3}}{2}$

$\operatorname{tg}(\pi - \alpha) = -\operatorname{tg} \alpha$

$\sin(\pi+\alpha)$

$= -\sin\alpha$



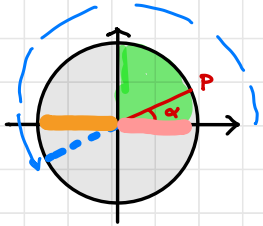
$\sin(210^\circ) =$

$= \sin(180^\circ + 30^\circ) = -\sin 30^\circ$

$= -\frac{1}{2}$

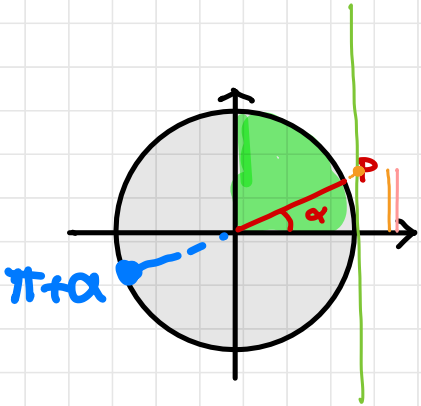
$\cos(\pi+\alpha)$

$= -\cos\alpha$



$\cos\left(\frac{5}{4}\pi\right) = \cos\left(\pi + \frac{\pi}{4}\right)$

$= -\cos\frac{\pi}{4} = -\frac{\sqrt{2}}{2}$



$\mathrm{tg}(\pi+\alpha) = \mathrm{tg}\,\alpha$

ANGOLI COMPLEMENTARI

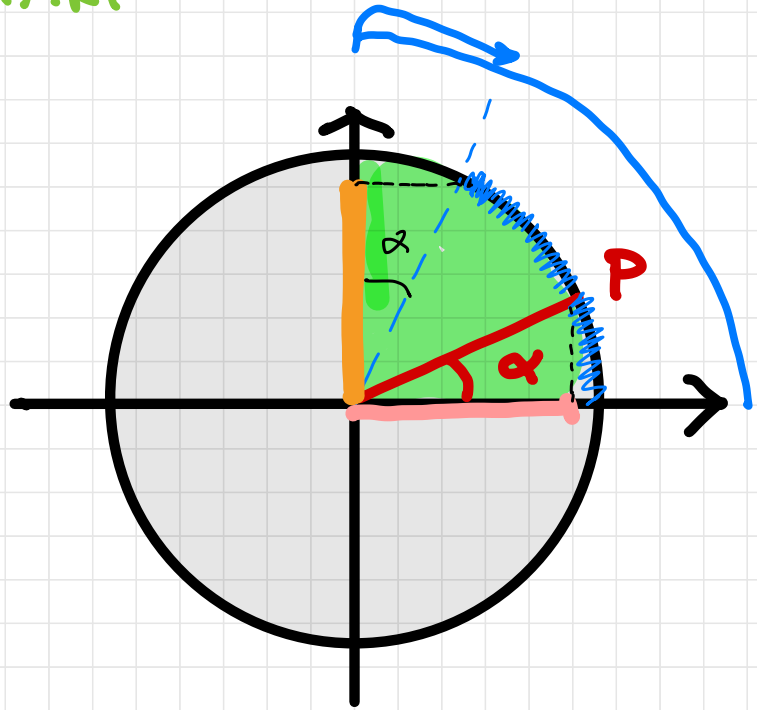
$$\operatorname{sen}\left(\frac{\pi}{2}-\alpha\right)$$

$$= \cos\alpha$$

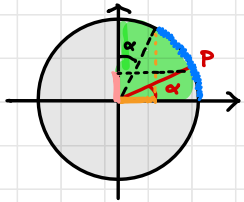
$$\operatorname{sen}\frac{\pi}{3} = \operatorname{sen}\left(\frac{\pi}{2}-\frac{\pi}{6}\right)$$

$$\frac{3\pi-1}{6} = \frac{2}{6}\pi = \frac{\pi}{3}$$

$$= \cos\frac{\pi}{6} = \frac{\sqrt{3}}{2}$$



$$\cos\left(\frac{\pi}{2} - \alpha\right)$$

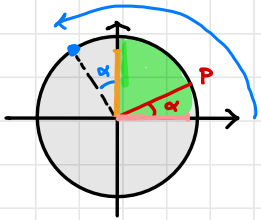


$$tg\left(\frac{\pi}{2} - \alpha\right) = \cot g\, \alpha$$

$$= \operatorname{sen} \alpha$$

$$\cos(45^\circ) = \cos(90^\circ - 45^\circ) = \operatorname{sen} 45^\circ = \frac{\sqrt{2}}{2}$$

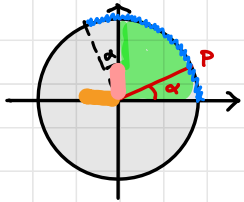
$$\operatorname{sen}\left(\frac{\pi}{2} + \alpha\right)$$



$$= \cos \alpha$$

$$\operatorname{sen}\left(\frac{3}{4}\pi\right) = \operatorname{sen}\left(\frac{\pi}{2} + \frac{\pi}{4}\right) = \cos\frac{\pi}{4} = \frac{\sqrt{2}}{2}$$

$\cos\left(\frac{\pi}{2}+\alpha\right)$



$= -\operatorname{sen}\alpha$

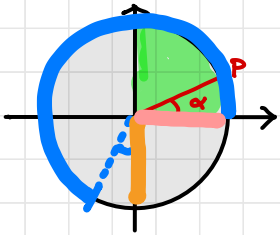
$$\cos\left(\frac{4}{3}\pi\right) = \cos\left(\frac{4}{3}\pi\right) = \cos\left(\frac{\pi}{2}+\frac{5}{6}\pi\right) = -\operatorname{sen}\frac{5}{6}\pi = -$$

$$-\operatorname{sen}\left(\pi-\frac{\pi}{6}\right) = -\operatorname{sen}\frac{\pi}{6} = -\frac{1}{2}$$

$$\operatorname{tg}\left(\frac{\pi}{2}+\alpha\right) = -\operatorname{cotg}\alpha$$

- $\operatorname{sen}\left(\frac{3}{2}\pi - \alpha\right)$

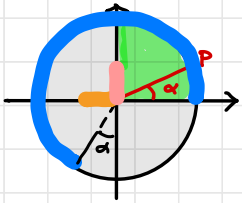
$= -\cos\alpha$



$\operatorname{tg}\left(\frac{3}{2}\pi - \alpha\right) = \operatorname{cotg}\alpha$

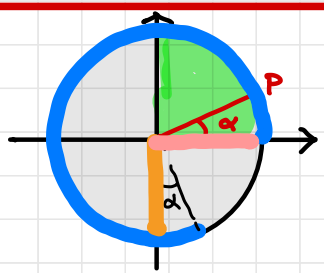
- $\cos\left(\frac{3}{2} - \alpha\right)$

$= -\operatorname{sen}\alpha$



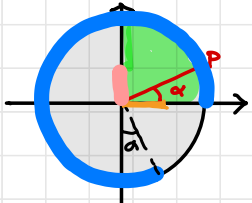
- $\operatorname{sen}\left(\frac{3}{2}\pi + \alpha\right)$

$= -\cos\alpha$



$\operatorname{tg}\left(\frac{3}{2}\pi + \alpha\right) = -\operatorname{cotg}\alpha$

- $\cos\left(\frac{3}{2}\pi + \alpha\right)$



$= \operatorname{sen}\alpha$