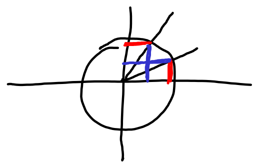
Relazioni tra le funzioni goniometriche di angoli (archi) associati

- Angoli complementari $\left(\alpha, \frac{\pi}{2}-\alpha\right)$:

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

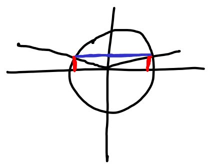
$\tan\left(\frac{\pi}{2}-\alpha\right) = \frac{1}{\tan\alpha}$



- Angoli supplementari $(\alpha, \pi-\alpha)$:

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

$\tan(\pi-\alpha) = -\tan\alpha$



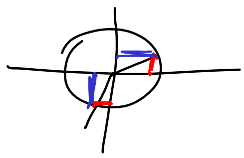
- Angoli esplementari $(\alpha, 2\pi-\alpha)$:

$\sin(2\pi-\alpha) = -\sin\alpha$, $\cos(2\pi-\alpha) = \cos\alpha$

$\tan(2\pi-\alpha) = -\tan\alpha$

- Angoli con somma $\frac{3}{2}\pi$ $\left(\alpha, \frac{3}{2}\pi-\alpha\right)$:

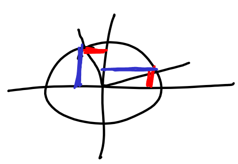
$\sin\left(\frac{3}{2}\pi-\alpha\right) = -\cos\alpha$



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

$\tan\left(\frac{3}{2}\pi-\alpha\right) = \frac{1}{\tan\alpha}$

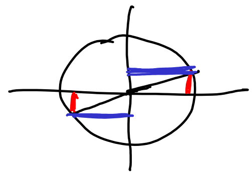
- Angoli con differenza $\frac{\pi}{2}$ $\left(\alpha, \frac{\pi}{2}+\alpha\right)$:



$\sin\left(\frac{\pi}{2}+\alpha\right) = \cos\alpha$, $\cos\left(\frac{\pi}{2}+\alpha\right) = -\sin\alpha$

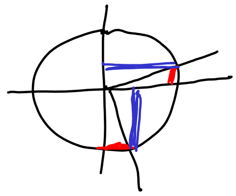
$\tan\left(\frac{\pi}{2}+\alpha\right) = -\frac{1}{\tan\alpha}$

- Angoli con differenza π $(\alpha, \pi + \alpha)$:



$$\sin(\pi + \alpha) = -\sin\alpha$$
$$\cos(\pi + \alpha) = -\cos\alpha$$
$$\tan(\pi + \alpha) = \tan\alpha$$

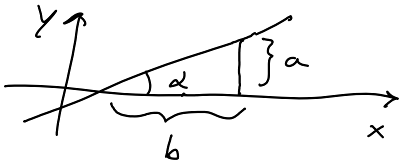
- Angoli con differenza $\frac{3}{2}\pi$ $(\alpha, \frac{3}{2}\pi + \alpha)$:



$$\sin\left(\frac{3}{2}\pi + \alpha\right) = -\cos\alpha$$
$$\cos\left(\frac{3}{2}\pi + \alpha\right) = \sin\alpha$$
$$\tan\left(\frac{3}{2}\pi + \alpha\right) = -\frac{1}{\tan\alpha}$$

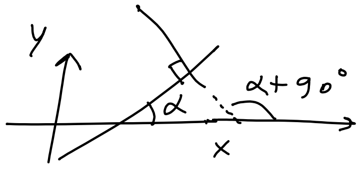
Proprietà

- Data una retta non parallela all'asse y, il suo coefficiente angolare è uguale alla tangente dell'angolo che la retta forma con l'asse delle ascisse.



$$m = \frac{a}{b} = \tan\alpha$$

- Per rette perpendicolari



$$m' = \tan(\alpha + 90°) = -\frac{1}{\tan\alpha} = -\frac{1}{m}$$