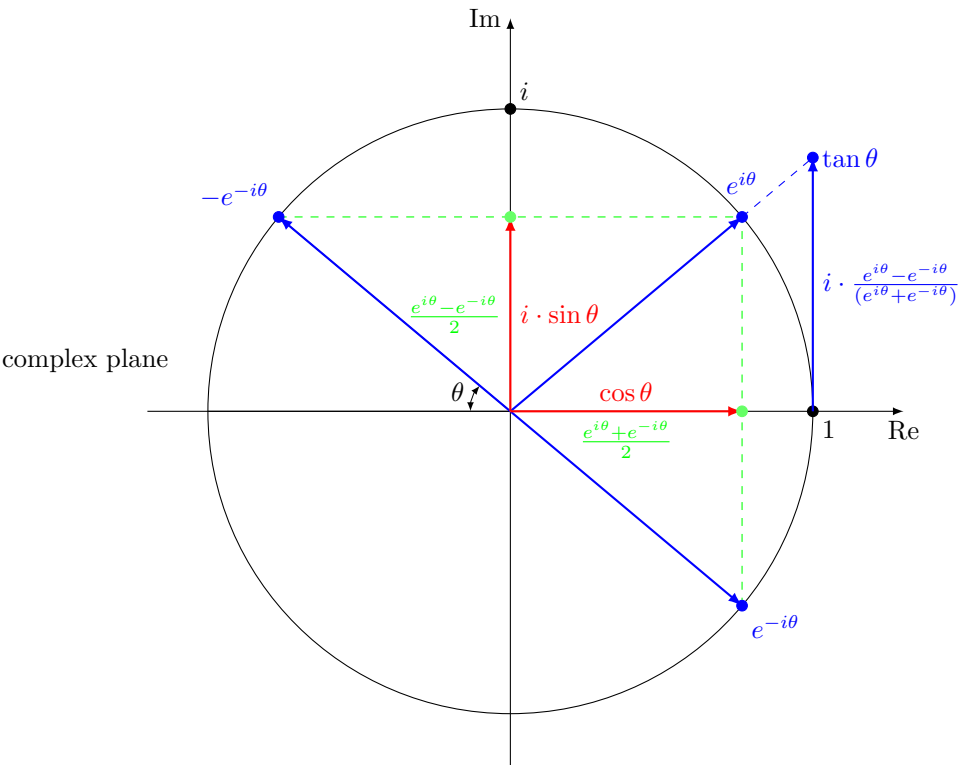
Relationship between sine, cosine, tangent and exponential function



$$e^{i\theta} = \cos\theta + i\cdot\sin\theta,$$
$$e^{-i\theta} = \cos(-\theta) + i\cdot\sin(-\theta) = \cos\theta - i\cdot\sin\theta.$$
$$\cos\theta = \operatorname{Re}\left(e^{i\theta}\right) = \frac{e^{i\theta}+e^{-i\theta}}{2},$$
$$\sin\theta = \operatorname{Im}\left(e^{i\theta}\right) = \frac{e^{i\theta}-e^{-i\theta}}{2i}.$$
$$\cos i\theta = \frac{e^{-\theta}+e^{\theta}}{2} = \cosh\theta,$$
$$\sin i\theta = \frac{e^{-\theta}-e^{\theta}}{2i} = \frac{e^{\theta}-e^{-\theta}}{2}\cdot i = i\cdot\sinh\theta.$$
$$\tan\theta = \frac{e^{i\theta}-e^{-i\theta}}{i(e^{i\theta}+e^{-i\theta})},$$
$$\tanh\theta = \frac{e^{\theta}-e^{-\theta}}{e^{\theta}+e^{-\theta}}.$$