

$$\cos(i) = \frac{e^{i \cdot i} + e^{-i \cdot i}}{2} = \frac{e^{-1} + e^1}{2} = \frac{1}{2} \frac{e + e^{-1}}{1} = \frac{1 + e^2}{2e} > 1$$

$$\sin(i) = \frac{e^{i \cdot i} - e^{-i \cdot i}}{2i} = \frac{e^{-1} - e}{2i} = \frac{(e^{-1} - e)i}{-1}$$

$$\underbrace{\cos^2(i)}_{>1} + \underbrace{\sin^2(i)}_{<0} = 1$$