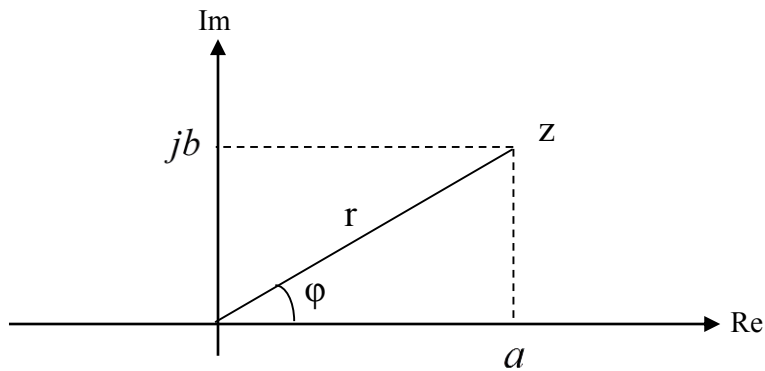


Komplexa tal



$$j^2 = -1$$

$$z = a + jb$$

Rektangulärt

$$z = r \cdot e^{j\varphi}$$

Polärt

$$\mathbf{P \rightarrow R} \quad z = r \cdot e^{j\varphi} = \underbrace{r \cos \varphi}_a + j \cdot \underbrace{r \sin \varphi}_b$$

R → P

$$r = |z| = \sqrt{a^2 + b^2}$$

$$\varphi = \arg z = \left\{ \begin{array}{lll} \arctan \frac{b}{a} & a > 0 \quad b > 0 & 1: \text{a kvadranten} \\ \arctan \frac{b}{a} + 180^\circ & a < 0 \quad b > 0 & 2: \text{a kvadranten} \\ \arctan \frac{b}{a} - 180^\circ & a < 0 \quad b < 0 & 3: \text{e kvadranten} \\ \arctan \frac{b}{a} & a > 0 \quad b < 0 & 4: \text{e kvadranten} \end{array} \right.$$

Addition o subtraktion:

Räkna rektangulärt

Multiplikation o division:

Räkna polärt