

Imaginary number 'i'

- Imaginary number 'i' was introduced as solution for following equation:

$$x^2 = -1 \quad (0.1)$$

This is why 'i' is defined as:

$$i^2 = -1 \quad (0.2)$$

Using relation (0.2), equation (0.1) now has following two solutions:

$$x = \pm i$$

- Introduction of imaginary number 'i' opened a door to the world of complex numbers:

$$z = x + iy = A(\cos \varphi + i \sin \varphi) = Ae^{i\varphi}$$