

$$i^2 = -1 \text{ Testfall}$$

$$z_1 := 0 + 1i, z_2 := 0 + 1i$$

$$z_1 \cdot z_2 = (0 + 1i) \cdot (0 + 1i)$$

$$\Leftrightarrow = 0 \cdot (0 + 1i) + 1i \cdot (0 + 1i)$$

$$\Leftrightarrow = 1i \cdot (0 + 1i)$$

$$\Leftrightarrow = 1i \cdot 1i$$

$$\Leftrightarrow = i \cdot i$$

$$\Leftrightarrow = i^2 \Rightarrow z_1 \cdot z_2 \equiv i^2$$

$$z_1 \cdot z_2 = (a c - b d) + (a d + b c)i$$

$$\Leftrightarrow = (0 \cdot 0 - 1 \cdot 1) + (0 \cdot 1 + 1 \cdot 0)i$$

$$\Leftrightarrow = 0 - 1 + 0 \cdot i$$

$$\Leftrightarrow = -1$$

$$\Rightarrow \boxed{z_1 \cdot z_2 = -1 \equiv i^2}$$