Komplekse tall på normalform

$$z = x + iy, \quad i^2 = -1, \quad x = \mathrm{Re}\, z, \quad y = \mathrm{Im}\, z$$

Operasjoner:

$$z_1 = x_1 + iy_1, \quad z_2 = x_2 + iy_2$$

$$z_1 = z_2 \iff x_1 = x_2 \text{ og } y_1 = y_2$$

$$z_1 + z_2 = (x_1 + x_2) + i\,(y_1 + y_2)$$

$$z_1 - z_2 = (x_1 - x_2) + i\,(y_1 - y_2)$$

$$z_1 z_2 = (x_1 x_2 - y_1 y_2) + i\,(x_1 y_2 + x_2 y_1)$$

$$\frac{z_1}{z_2} = \frac{(x_1 + iy_1)\,(x_2 - iy_2)}{(x_2 + iy_2)\,(x_2 - iy_2)}$$

Komplekskonjugerte tall:

$$z = x + iy, \quad \bar{z} = x - iy$$

$$z\bar{z} = x^2 + y^2 = |z|^2$$

$$\mathrm{Re}\, z = \frac{1}{2}(z + \bar{z}), \quad \mathrm{Im}\, z = \frac{1}{2i}(z - \bar{z})$$

Trekantulikheten:

$$|z_1 + z_2| \leq |z_1| + |z_2|$$