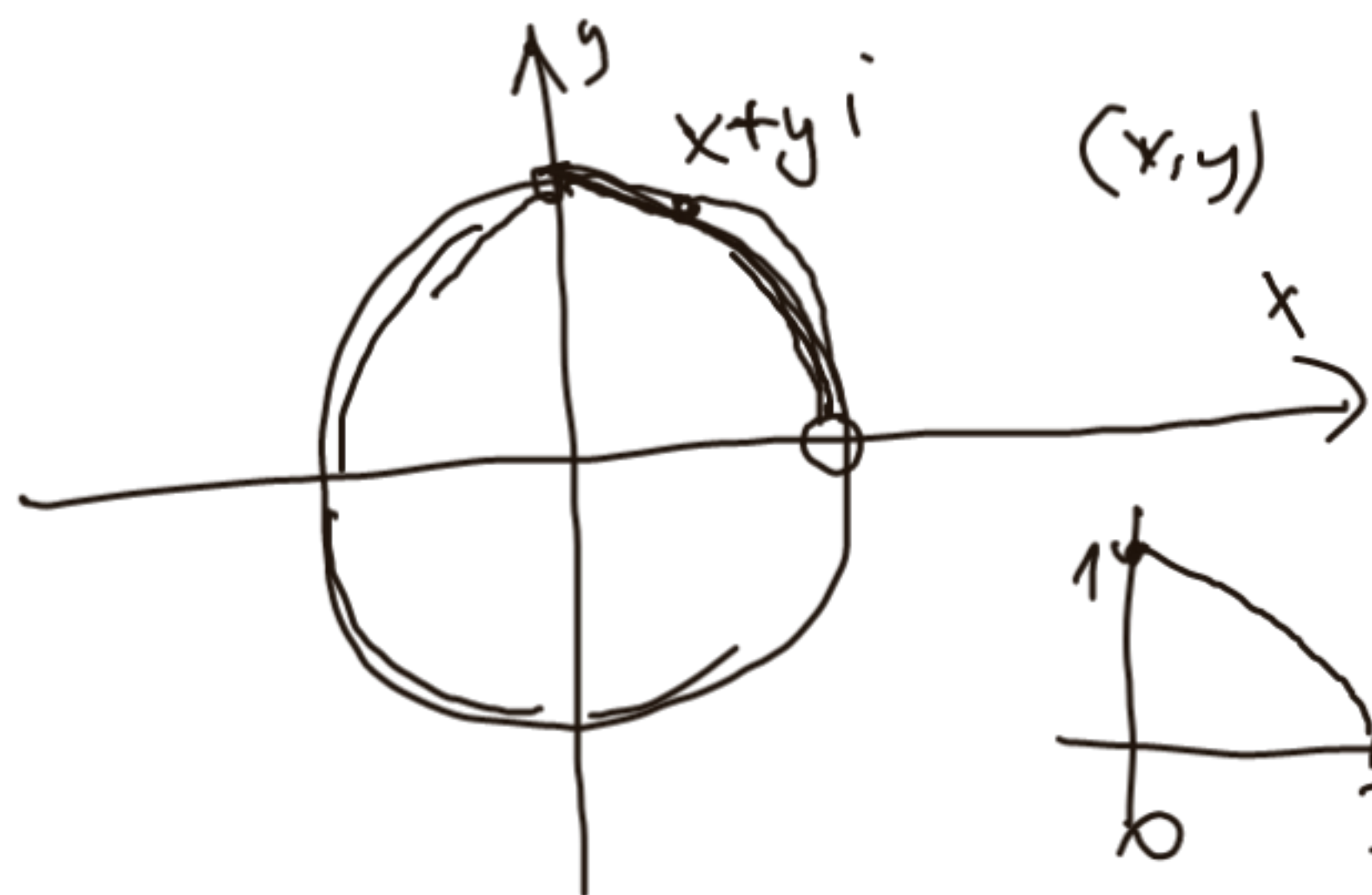


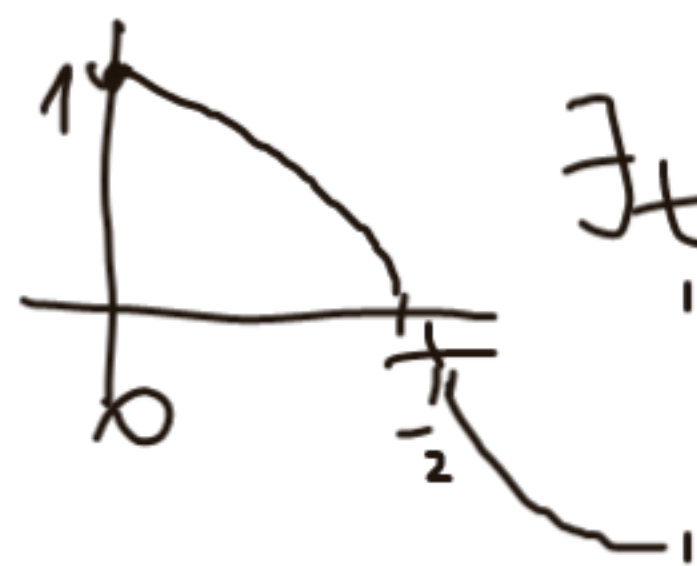
$$t \xrightarrow{\varphi} e^{it} \Rightarrow t \mapsto \cos t + i \sin t$$

$$\mathbb{R} \rightarrow \{z \in \mathbb{C} : |z|=1\} =: \mathbb{T} \quad \begin{array}{l} \text{Re } \mathbb{C} \\ \text{Im } \mathbb{C} \end{array}$$

$$|z| = \sqrt{\text{Re}^2 z + \text{Im}^2 z} = \sqrt{\cos^2 t + \sin^2 t} = 1$$



$$(x, y) \quad \underbrace{x^2 + y^2 = 1, x, y > 0}_{x \in (0, 1)}$$



$$\exists t \in (0, \frac{\pi}{2})$$

$$\cos t = x$$

$$\sin t = \sqrt{1-x^2} = y \Rightarrow x+yi = e^{it}$$

KONNEKTION  $\mathbb{C}$  top, i.e.  $\varphi(\mathbb{R}) \subset \mathbb{T}$