

$$\underbrace{a+bi}_z, \underbrace{c+di}_w \in \mathbb{C}$$

$$z = (a; b)$$

$$w = (c; d)$$

$$(a+bi) \cdot (c+di) = ac + adi + bci + bdi^2$$

$$= ac + bd(-1) + (ad+bc)i$$

$$= (ac - bd) + (ad + bc) \cdot i$$

$$\begin{pmatrix} a \\ b \end{pmatrix} \cdot \begin{pmatrix} c \\ d \end{pmatrix} = \begin{pmatrix} ac - bd \\ ad + bc \end{pmatrix}$$

$$\begin{pmatrix} 0 \\ 1 \end{pmatrix}^2 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$

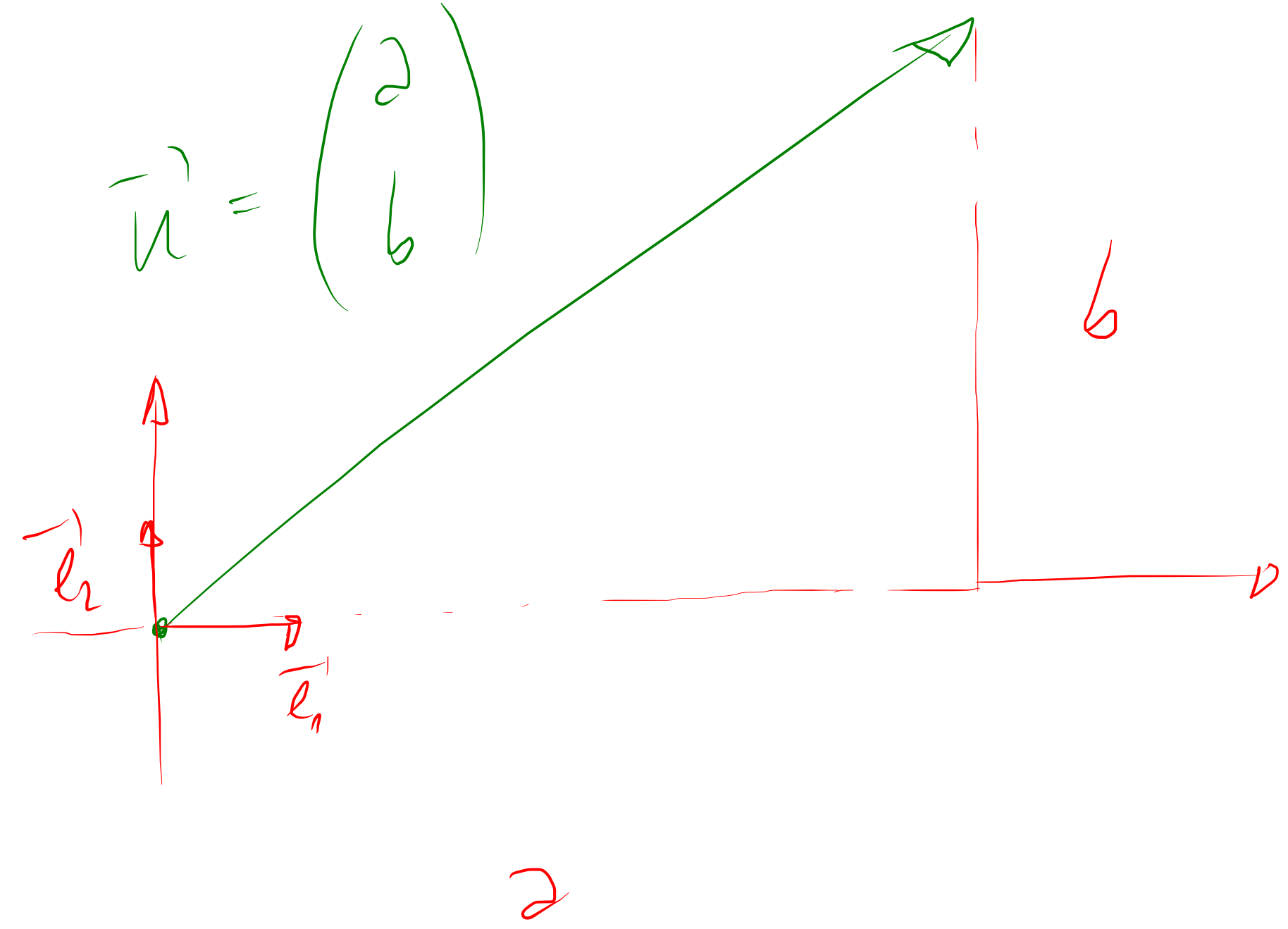
$$b \begin{pmatrix} 0 \\ 1 \end{pmatrix} \cdot \begin{pmatrix} 0 \\ 1 \end{pmatrix}^c = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$

Vektor

$$\vec{u} = (2, 6)$$

$$\vec{u} = \begin{pmatrix} 2 \\ 6 \end{pmatrix}$$

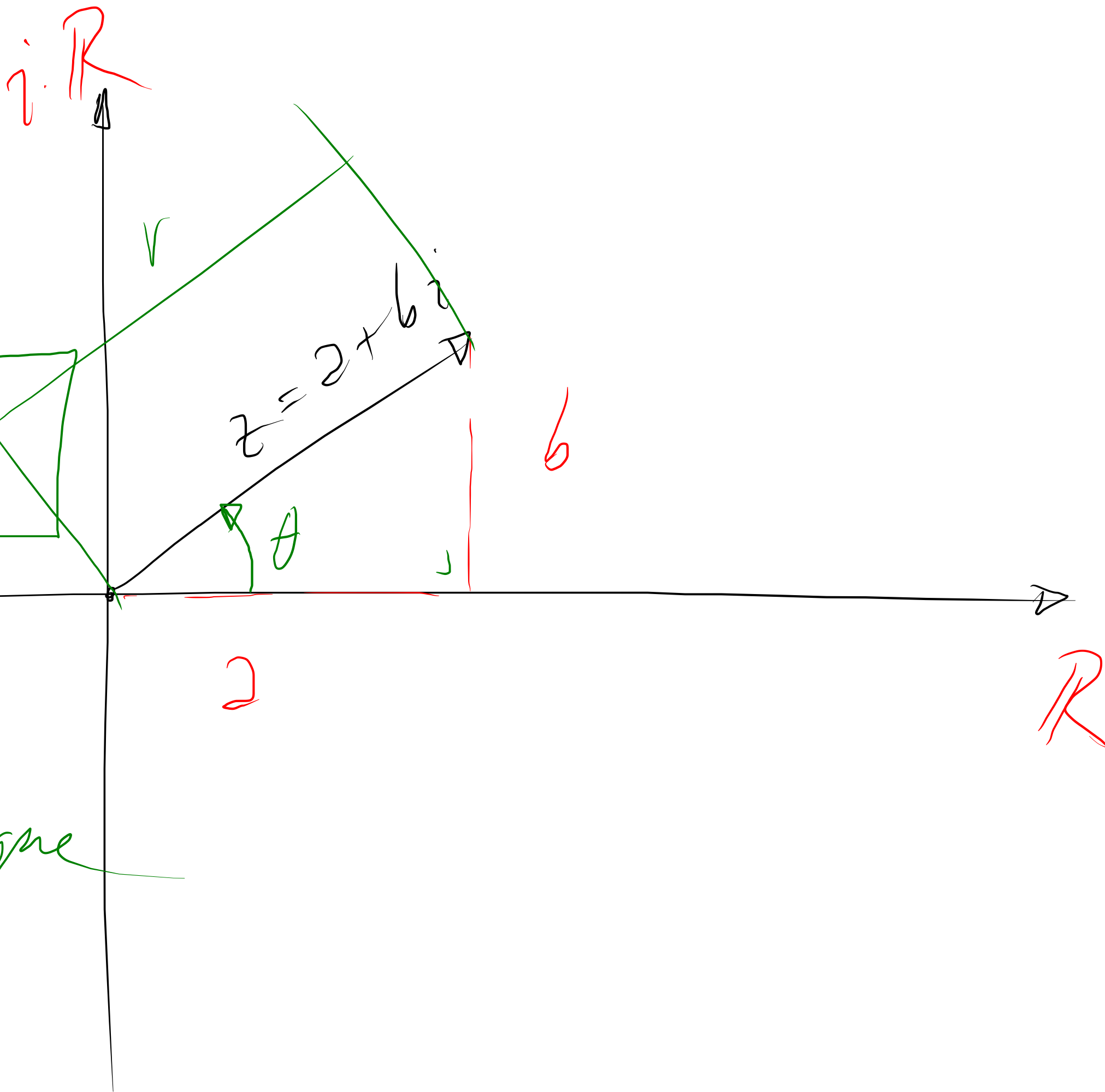
$$\vec{u} = (2 \quad 6)$$



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

$$z = r \cdot \cos \theta + r \cdot \sin \theta \cdot i$$

Forme trigonométrique



$$z_1 = 1 + i$$

$$z_2 = i - 5$$

$$z_3 = z_1 + z_2$$

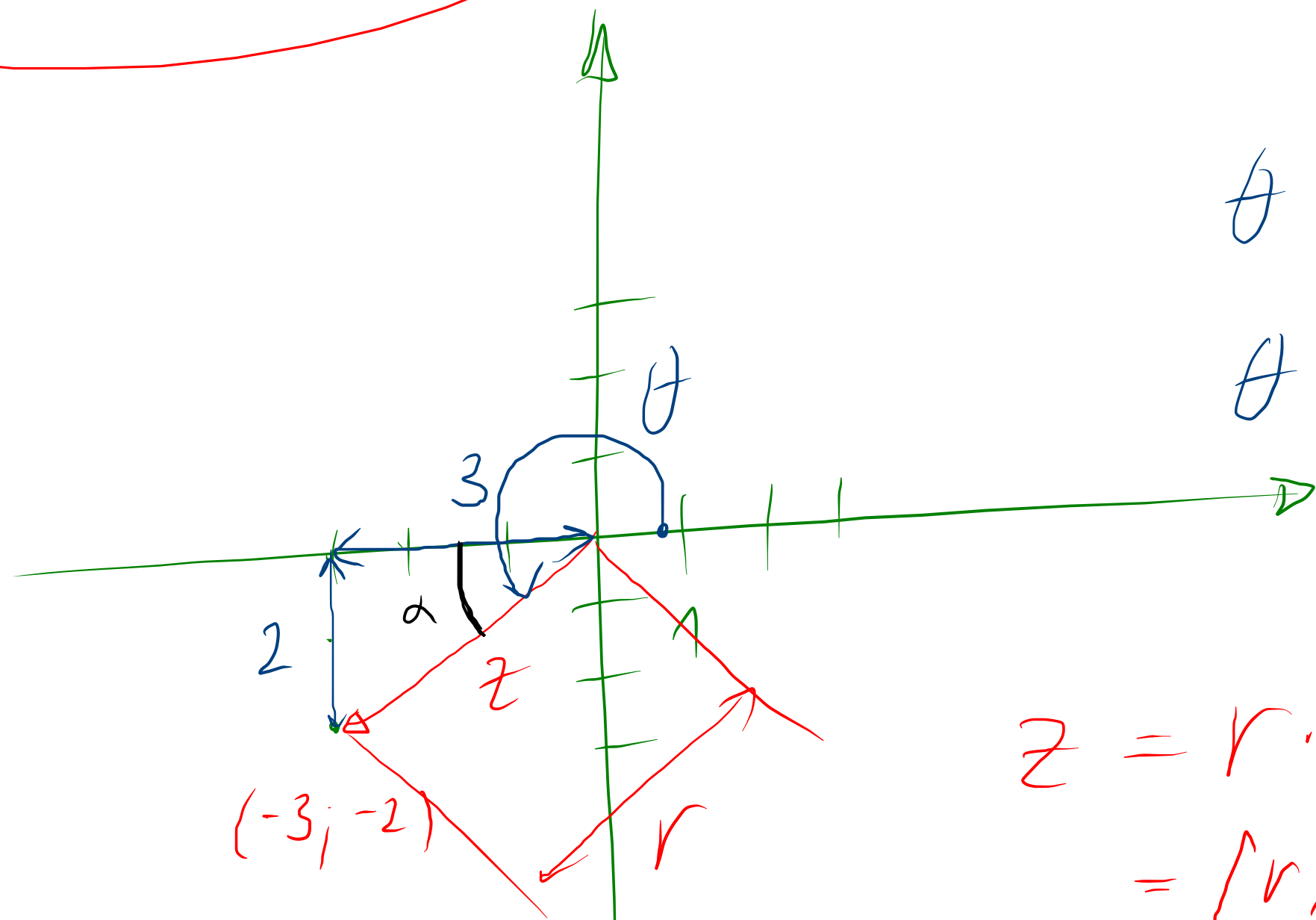
Calculons les affixes de z_3 :

$$z_3 = (1 + i) + (i - 5) = (1 - 5) + 2i = -4 + 2i$$

$$z = -3 - 2i$$



$$\vec{u} = \begin{pmatrix} -3 \\ -2 \end{pmatrix}$$



$$\theta = \pi + \alpha$$

$$\theta \approx \pi + 0,59 \approx 3,14 + 0,59$$

$$= \boxed{3,73}$$

$$z = r \cdot \cos \theta + r \sin \theta \cdot i$$
$$= [r; \theta]$$

$$\alpha = \arctan\left(\frac{2}{3}\right)$$

$$\approx \underline{33,7^\circ}$$

$$r = \sqrt{2^2 + 3^2} = \sqrt{13}$$

$$z = \sqrt{13} \cdot \cos(3,73) + \sqrt{13} \cdot \sin(3,73) \cdot i$$

$$\alpha \approx 0,59$$

