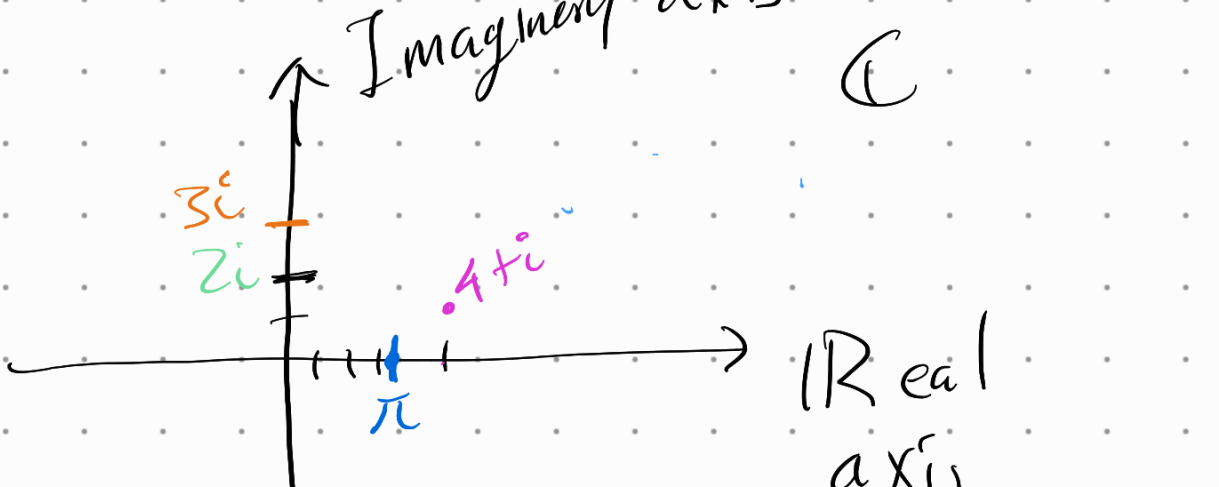
11/7

- Test on Thurs

- Real Numbers: $2, 3, \pi, 1/2, -\pi, \pi^{2023}, \ldots$
  - a # you can find on the number line

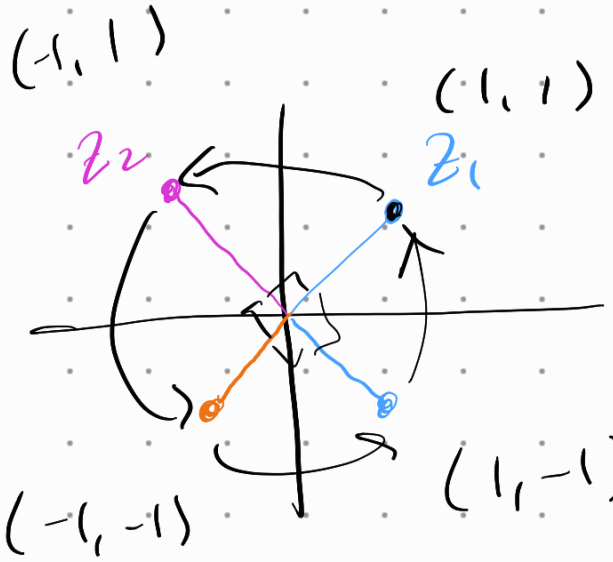
- Complex Numbers
  - a # you can find on the complex plane

π, $2i$, $3i$, $4+i$, $1/2+0i$



$20 - 23i$

$(20, -23)$



$z_1 = 1 + i \quad (1, 1)$

$z_2 = i z_1$

$= i(1 + i)$

$= i + i^2$

$= -1 + i \quad (-1, 1)$

$z_3 = i z_2$

$= i(-1 + i)$

$= -i + i^2$

$= -1 - i \quad (-1, -1)$

$z_4 \Rightarrow (1, -1)$

multiplication by i = rotation 90° counter clockwise!

$i^4 = 1$

$i^{4000} = 1$

$i^{100} = 1$

$i^{102} = i^2 = -1$

$i^{103} = -i$