Crash Course on Complex Numbers:
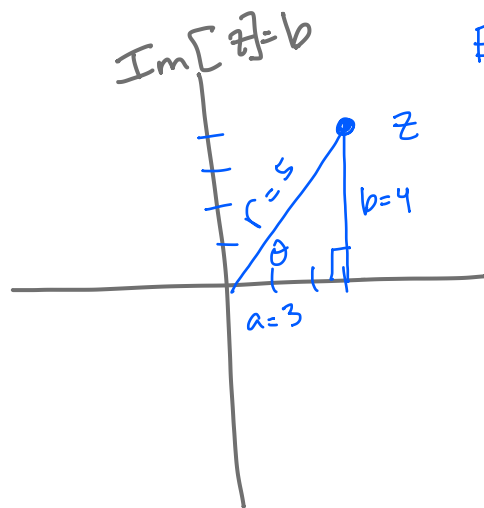
$z = a + ib$

$a, b \in$ Reals

$i = \sqrt{-1}$ Imaginary

$Re[z] = a ; \quad Im[z] = b$

Plot them:

EX: $z = 3 + 4i$

$r^2 = x^2 + y^2 = 9 + 16 = 25$

$r = 5$

$\tan\theta = \frac{b}{a}$