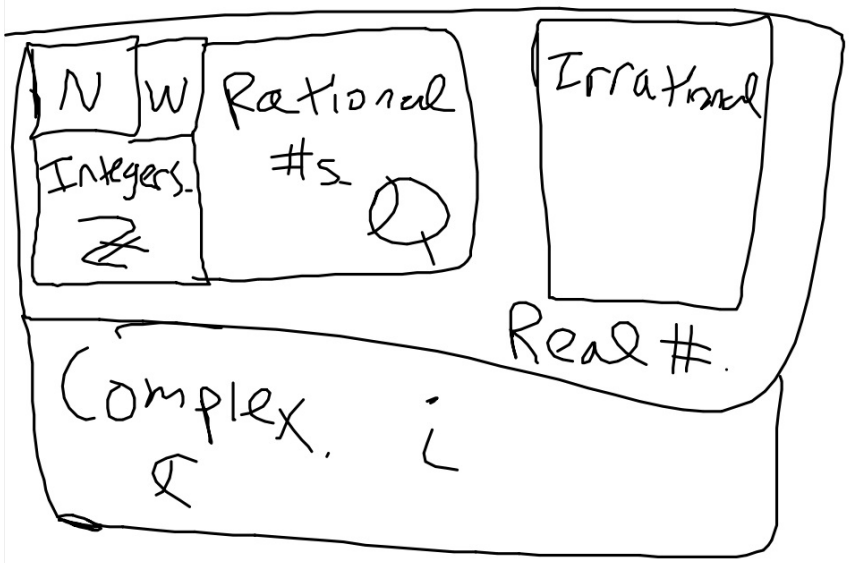
x^n exactly n # of solution (zeros)

$\sqrt{-1} = i$



$4 = 4 + 0i$

$\sqrt{2} = \sqrt{2} + 0i$

1) $\sqrt{-1} = i \Rightarrow \boxed{-1 = i^2}$

2) Treat "i" like a variable (i.e. "x")

$x+3+x-2 = 2x+1$

$i+3+i-2 = 2i+1$

$(x+3)(x-2) = x^2+x-6$

$(i+3)(i-2) = i^2+i-6 = i-7$

$= -1+i-6$

$i^3 = i^2 \cdot i$

$= (-1)i = -i$

$i^4 = i^2 i^2 = (-1)(-1)$

$= 1$

$i^{133} = (i^2)^{66} \cdot i$

$= (-1)^{66} i$

$= i$

$$\frac{3}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}}$$

$$\frac{3\sqrt{2}}{2}$$

$$\frac{3}{\sqrt{2}+3} \cdot \frac{\sqrt{2}-3}{\sqrt{2}-3}$$

13) $(-9-5i)(-6+8i)$

$-6-8i \quad (-6+8i)$

$$= \frac{54-42i-40i^2}{36-64i^2} = \frac{54-42i+40}{36+64}$$

$$= \frac{94-42i}{100}$$

$$= \frac{47-21i}{50}$$

$\sqrt{-4} = \pm 2i$

$\sqrt{4 \cdot -1}$

$\sqrt{-25} = \pm 5i$