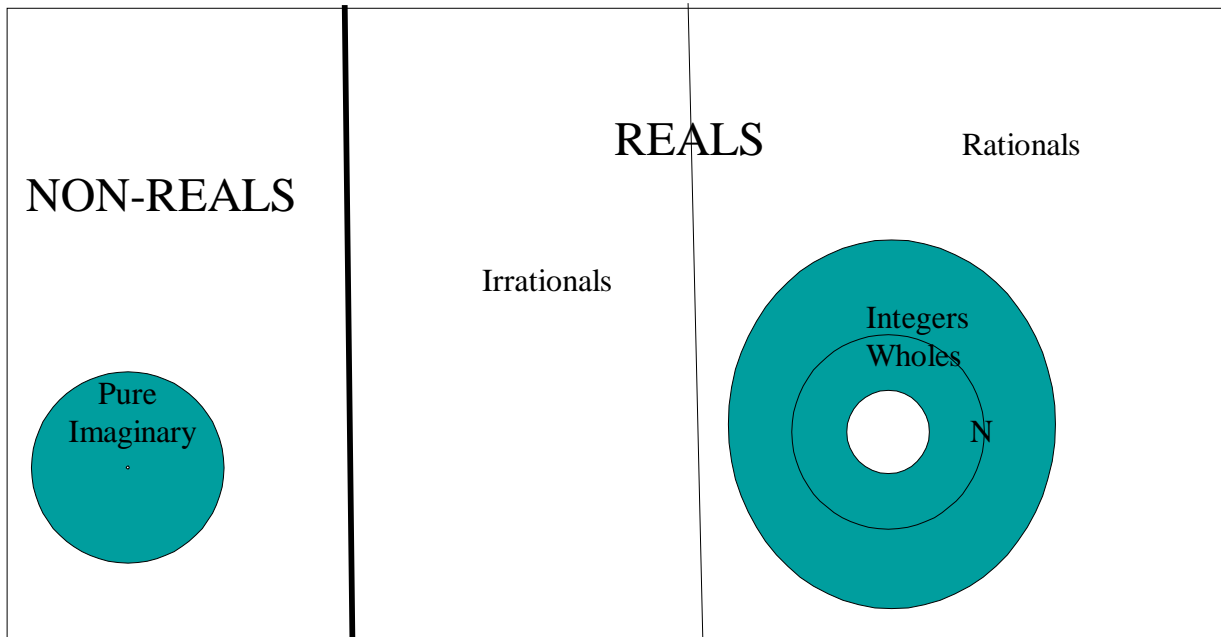


The set of complex numbers (e.g.,  $4 + 3i$ )



Above is the set of all Complex Numbers (e.g.,  $4 + 3i$ )

These concepts are defined by properties (distinctive features, essences) and therefore have

**strict boundaries** (nothing is “sort of a” whole number) and

**no internal structure** (2 and 427 and 3, 343 are equally good members of the set of whole numbers)

N = natural numbers (1, 2, ...)

Whole numbers = (0, 1, 2...) (conjunction of naturals AND zero)

Integers = (...-2, -1, 0, 1, 2...) (conjunction of wholes AND negatives)

Rationals = a RATIO (hence “rational”)  $m/n$  where  $m$  &  $n$  are integers excluding  $n = 0$ . A ratio of 2 integers. Decimal form is terminating or repeating.

Irrationals = no ratio form. Decimal form is nonterminating nonrepeating ( $\pi$ , square rt. of 2 or 7).

Real Numbers = Rationals AND Irrationals (conjunction of 2 sets)

Pure Imaginary include the “imaginary element” (sq. rt. of -1) as a factor.

Complex Numbers have a REAL component and an IMAGINARY component.