

1.1 Introduction to Real #'s

set - a collection of objects $\{1, 2, 3, 4, 5\}$ elements - members of a set $2 \in \{1, 2, 3, 4, 5\}$ \mathbb{N} natural #'s - counting #'s $\{1, 2, 3, \dots\}$ prime - only factors are 1 & itself $\{2, 3, 5, 7, 11, \dots\}$ composite - $\{4, 6, 8, \dots\}$ \mathbb{Z} integers - positive & negative whole #'s $\{\dots, -3, -2, -1, 0, 1, 2, 3, \dots\}$ \mathbb{Q} rational #'s - #'s that can be written as a fraction $\left\{ \frac{p}{q} \mid p, q \in \mathbb{Z} \right\}$ ↑
"such that"

- the set of all terminating & repeating decimals

irrational #'s - non-terminating, non-repeating decimalse.g. $\pi \approx 3.14159265\dots$ \mathbb{R} real #'s - the set of all decimals
- all rational and irrational #'s