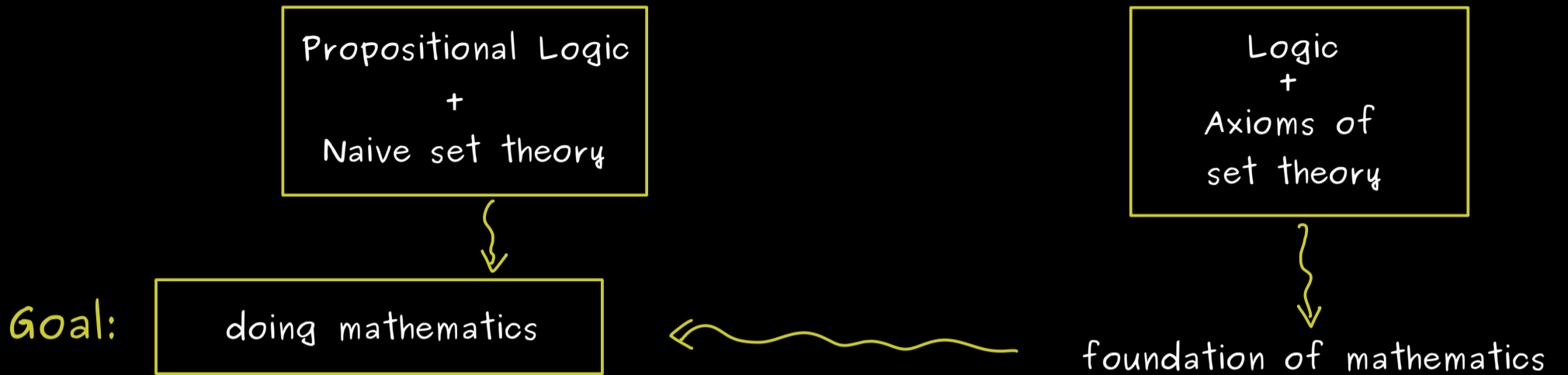


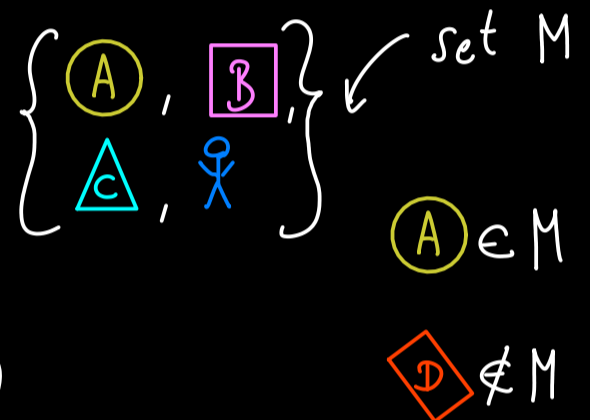
Start Learning Sets - Part 1



Set: Collection of distinct objects into a whole

Such an object x inside a set M is called an element of M , write: $x \in M$.

If x is not such an object inside the set M , we write: $x \notin M$ means: $\neg(x \in M)$



A set can be defined by giving all its elements: $A := \{2, 5, 6\}$
defined by

Examples: Empty set: $\emptyset := \{\}$

Natural numbers: $\mathbb{N} := \{1, 2, 3, 4, 5, \dots\}$

Natural numbers (including zero): $\mathbb{N}_0 := \{0, 1, 2, 3, 4, \dots\}$

Integers: $\mathbb{Z} := \{\dots, -2, -1, 0, 1, 2, \dots\}$

Rational numbers \mathbb{Q}

Real numbers \mathbb{R}

Complex numbers \mathbb{C}

\rightsquigarrow quantifiers $\forall \exists$ predicates $x \in \mathbb{N}$