

1 Set Theory

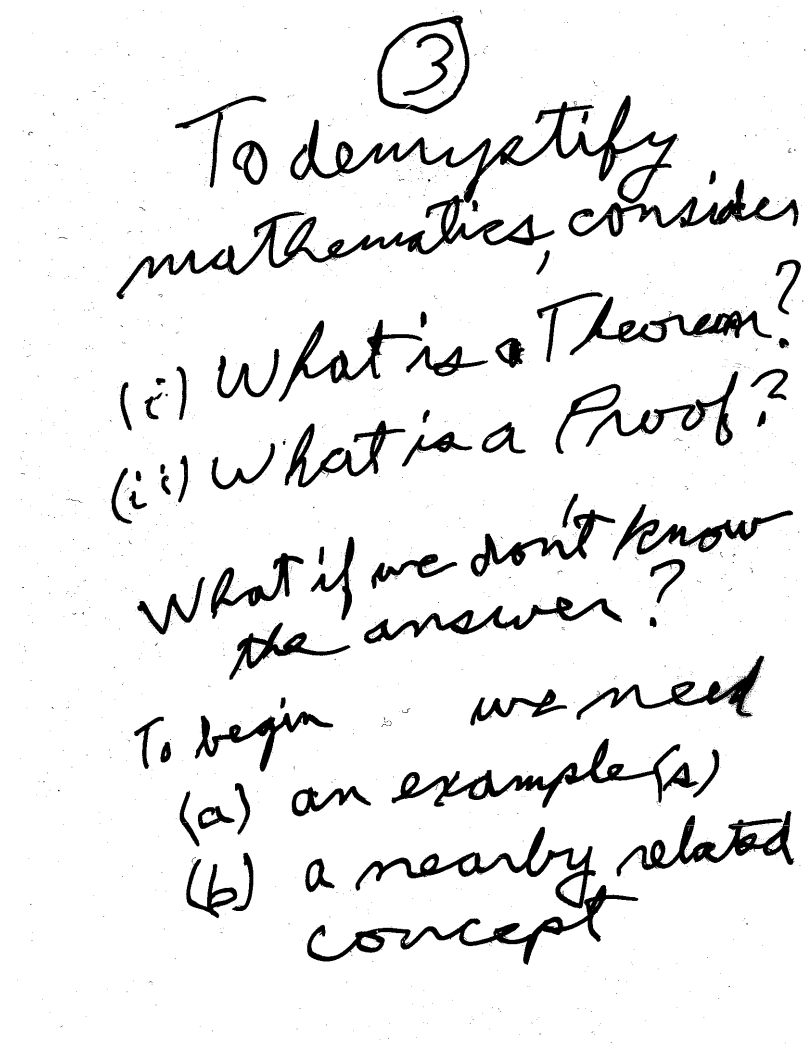
To demystify mathematics consider

- (i) What is a theorem?
- (ii) What is a proof?

What if we don't know the answer?

To begin we need

- (a) an example(s)
- (b) a nearly related concept



Related Concept: Greek Syllogism
example:

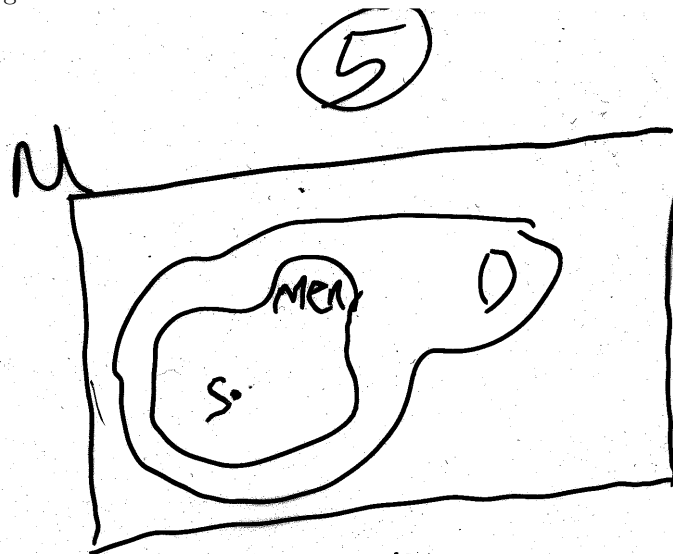
1. All men are mortal.
2. Socrates is a man.
3. Therefore, Socrates must die.

To analyze, recast in set theoretic terms via Venn Diagram.

(4)
Related Concept:
Greek Syllogism
Example:
(1) All men are mortal
(2) Socrates is a man
 \therefore (3) Socrates must die
To analyze, recast
in set theoretic terms
via Venn diagram



S : Socrates
 M : Set of Men
 D : Things that will die
 U : Things on Earth



S : Socrates
 M : set of men
 D : things that die
 U : things on earth

- 2 Generate \mathbb{N}**
- 3 From \mathbb{Z} to \mathbb{R} via ordering**
- 4 Sequence and Limits**
- 5 Limit and Convergence**
- 6 Infinite Series**
- 7 Metric Spaces Part 1**
- 8 Metric Spaces Part 2**

Call them C_1, C_2, \dots, C_L