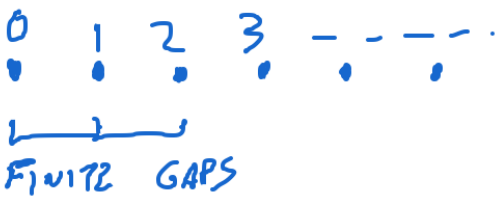
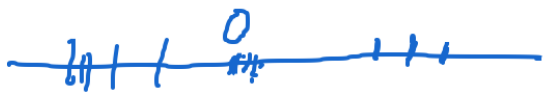
discrete mathematics

based on the set N (natural numbers)



continuous mathematics

based on the set R (real numbers)



CONTINUOUS FLOW OF NUMBERS

INFINITESIMAL GAPS BETWEEN NUMBERS

WE HAVE DIFFERENT PROBLEMS AND DIFFERENT TECHNIQUES ?

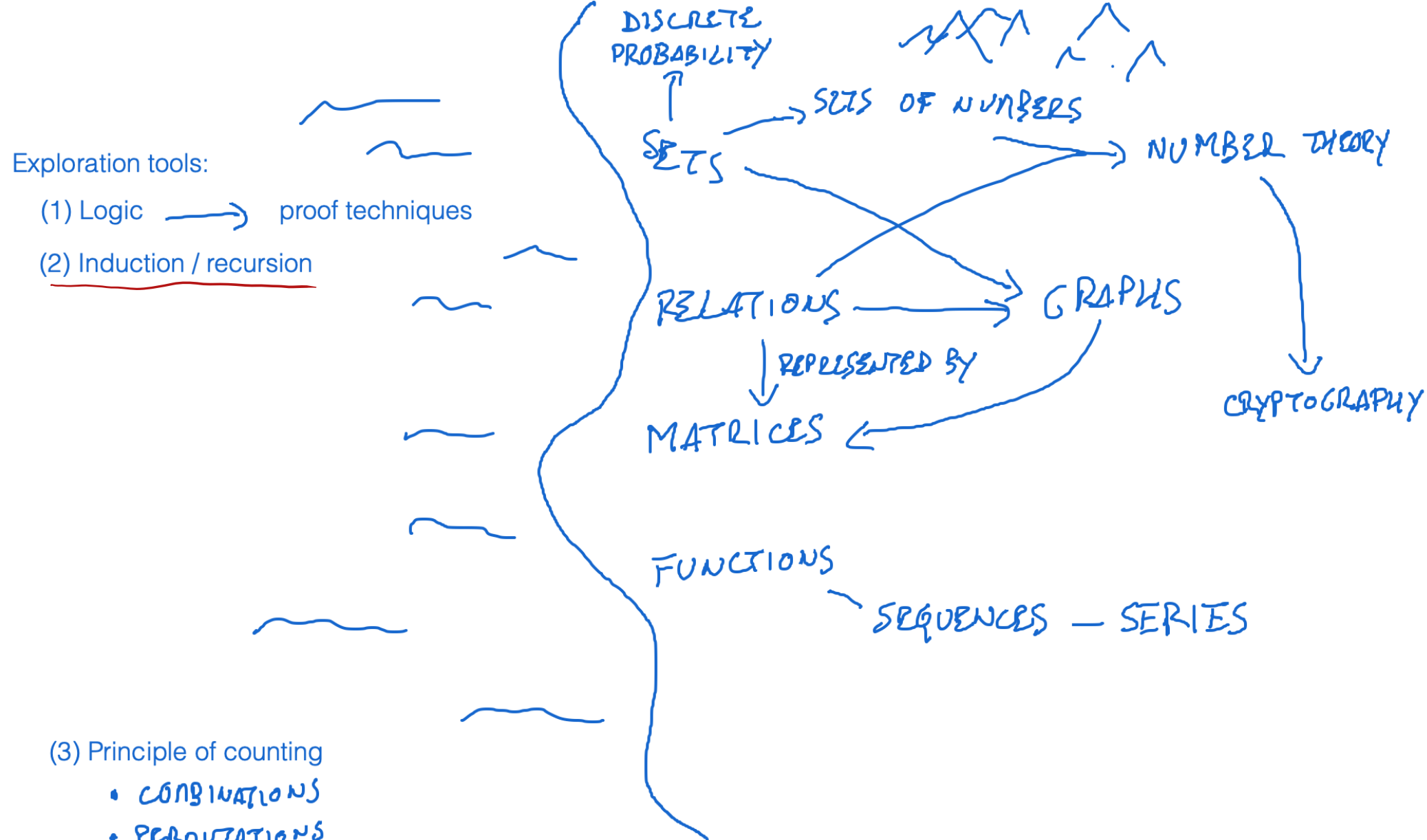
CALCULUS

MOST IMPORTANT TECHNIQUE:
INDUCTION / RECURSION

why discrete math?

Computers are finite objects

(1) they have a finite memory
(2) they can only work for a finite amount of time
(3) the way computers deal with number is inherently discrete
(computers work with very few numbers)



Exploration tools:

(1) Logic → proof techniques

(2) Induction / recursion

(3) Principle of counting

- COMBINATIONS
- PERMUTATIONS