The Bright Side of Mathematics

Functional analysis - part 1

Linear algebra ($\dim = \infty$) + Real and complex analysis

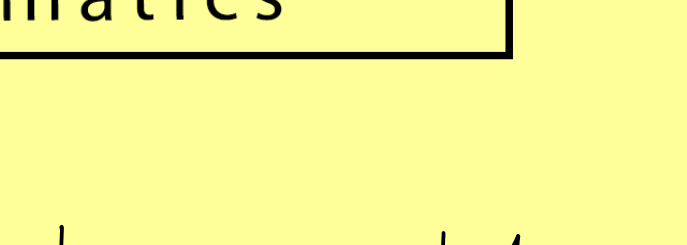
$\Rightarrow$ Functional analysis

(function spaces, sequences, ...)

= Study of topological-algebraic structures

Metric spaces

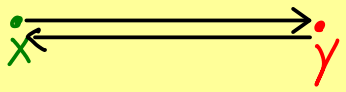
X set



a metric: $d : X \times X \longrightarrow [0, \infty)$

(1) $d(x,y) = 0 \iff x = y$

(2) $d(x,y) = d(y,x)$



(3) $d(x,y) \leq d(x,z) + d(z,y)$ (triangle inequality)