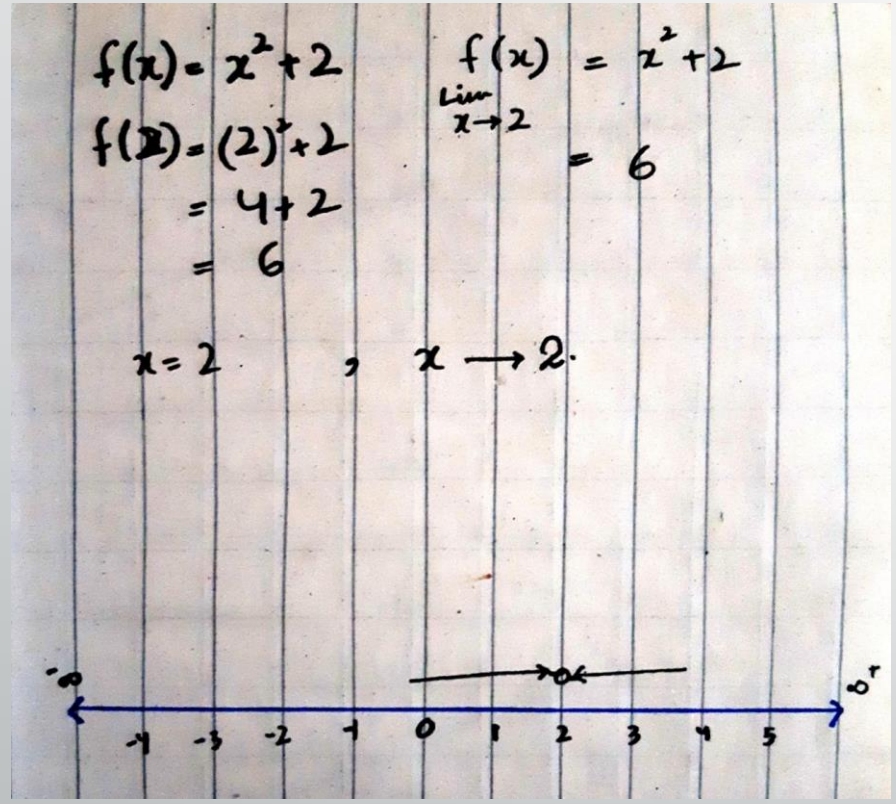
Understanding Limits

Introduction to Limits

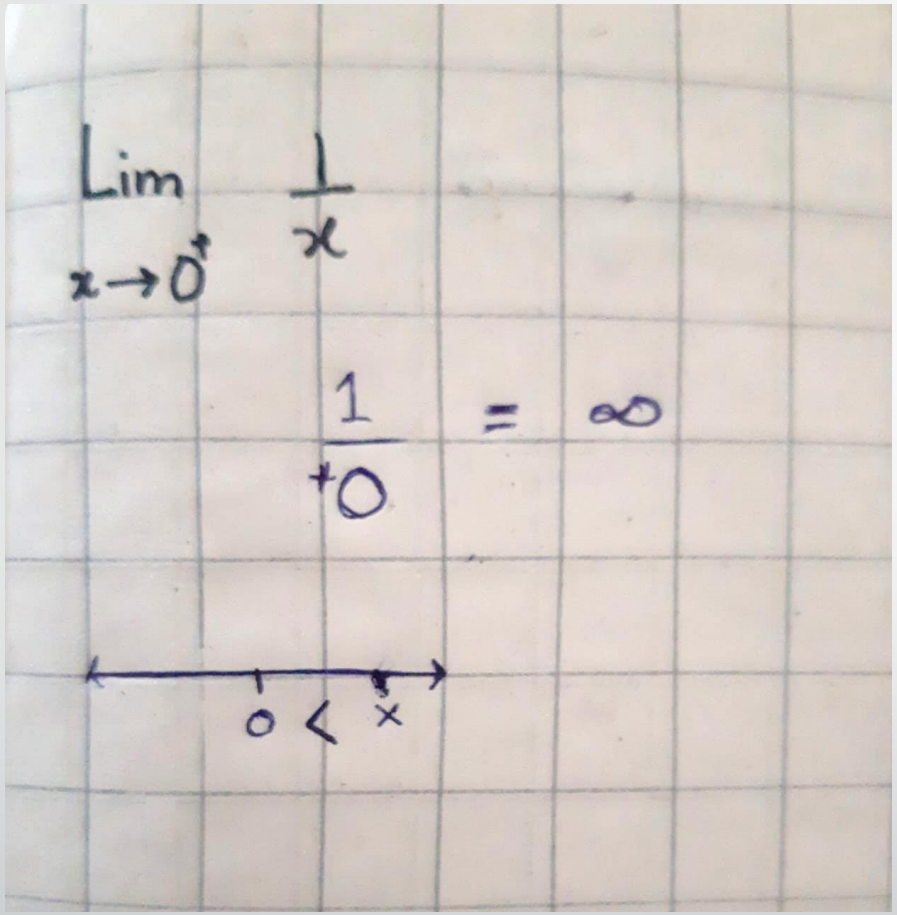
- If f(x) is a function of x and c, L are the real numbers, then L is the limit of a function f(x) as x approaches to c



$$\lim_{x \to c} f(x) = L$$

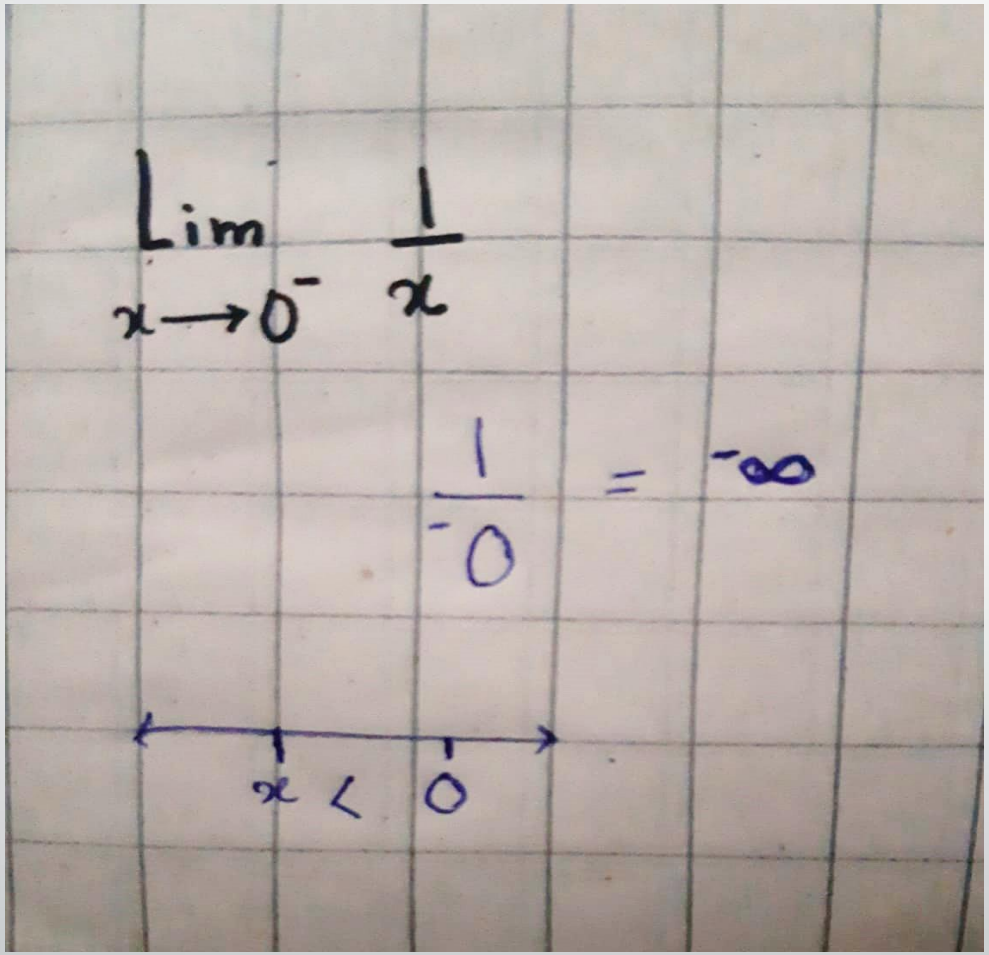
Values of x	1	1.5	1.99	2.001	2.5	3	3.25	4
Values of f(x)	3	4.25	5.96	6.004	8.25	11	12.56	18

Undefined Limits



Values of x	0.1	0.01	0.001	0.0001	0.00001
Values of 1/x	10	100	1000	10000	100000

Undefined Limits Cont.....



Values of x	-0.1	-0.01	-0.001	-0.0001	-0.00001
Values of 1/x	-10	-100	-1000	-10000	-100000

Undefined Limits cont..

$\lim_{x \to 0} \frac{1}{x}$ is undefined