



Nishant Jindal

Welcome Class 11th

to Apni kaksha



LIVE



① Avoid chat



used to answer the problems
asked.

① Notes



revise notes daily

solve illustrations on your own
also

Sheets → must

APP

Level I → sheets / standard books

Level II → books (revision)

Standard books

③ Hall & Knight ② S. L. Loney
(Trigonometry)

① Prelipko

~~Pet~~
Higher Algebra

Problem
Solving

30. → problems
attempt

2
2

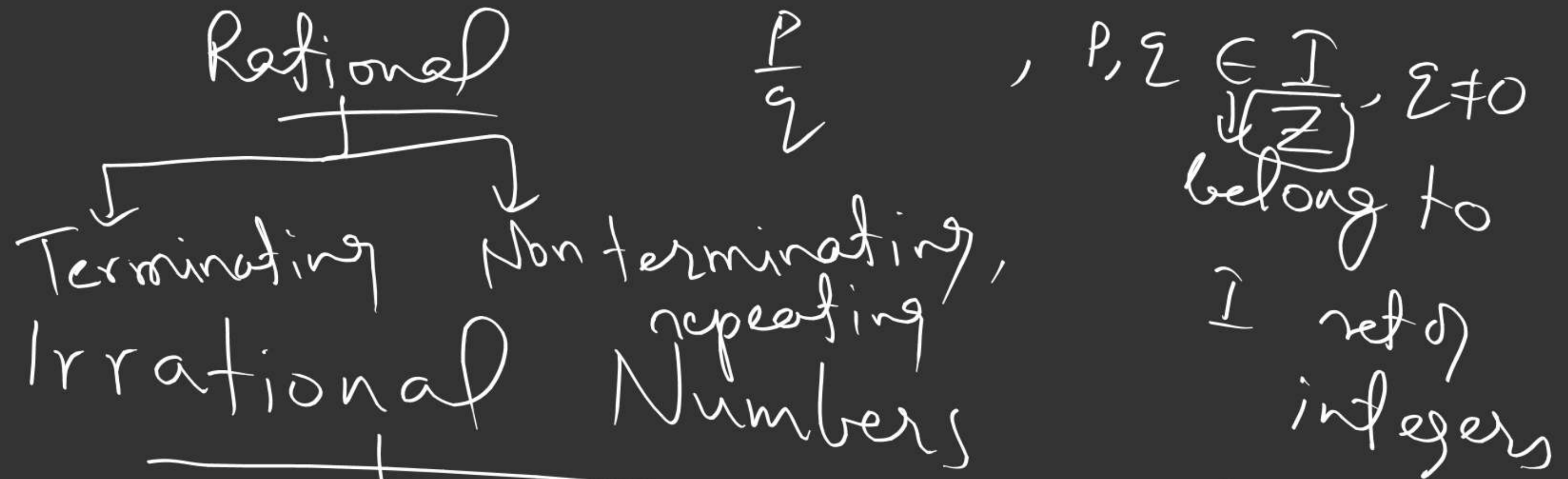
16
↓
2

Numbers

Natural numbers = $\{1, 2, 3, \dots\}$

Whole numbers = $\{0, 1, 2, 3, \dots\}$

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



non terminating, non repeating

$$99x = 1772 \quad x = 17.\overline{89} = 17.898989 \dots$$

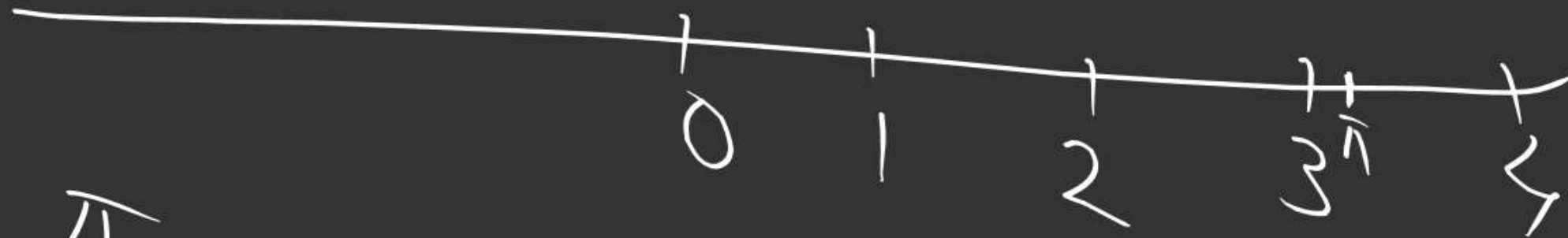
$$100x = 1789.\overline{89} = 1789.8989 \dots$$

Real numbers



represented on number
line

$$\pi \approx \frac{22}{7} \text{ (approx)}$$



$$\pi \approx 3.14$$

Imaginary numbers
↓
non real numbers

$$x^2 = -4$$

no real 'x'

Positive numbers

$$x > 0$$

Non negative numbers

π is non negative

True

3 is non negative

0 is non negative

$x \geq 0$
greater or equal

Non positive $\rightarrow x \leq 0$

Negative $\rightarrow x < 0$

Prime

2, 3, 5, - - -

Composite

4, 12, - - -

1 \rightarrow neither
prime, nor
composite

Relatively prime / Coprime numbers

2 natural no.s are coprime if their hcf is 1

36, 25 \rightarrow coprime

Twin Prime



2 prime no.s said to be
twin prime if their difference
is 2.

29, 31

3, 5
17, 19

Interval

closed Interval

$$2 \leq x \leq 3$$

\Rightarrow

belongs to

x

$$x \in [2, 3]$$

$$a \leq x \leq b \Rightarrow$$

$$x \in [a, b]$$

Open Interval

$$x \in]a, b)$$

$$2.667$$

$$a < x < b \Rightarrow$$

$$x \in (a, b) \text{ or }]a, b[$$

$$2 < x < 3 \Rightarrow x \in (2, 3)$$

Semi Closed

$$-3 \leq x < 5 \Rightarrow x \in [-3, 5)$$

$$4 < x \leq 7.8 \Rightarrow x \in (4, 7.8]$$

$$x \in [4, 8) \Rightarrow 4 \leq x < 8 \quad \text{or} \quad x \in [4, 7.8]$$

$$x > 4 \Rightarrow x \in (4, \infty)$$

$$x \geq -7 \Rightarrow x \in [-7, \infty)$$



$$x \leq 8 \Rightarrow x \in (-\infty, 8]$$



Product of 3 consecutive natural numbers is divisible by 6.

① P.T. $n^3 - n$, $n \in \mathbb{N}$

n^3 is divisible by 6
 $n^3 - n = (n-1)n(n+1)$ div. by 6

② If n is even natural number,
then prove that $n^3 + 20n$
is divisible by 48. div. by 48

$$n = 2k, k \in \mathbb{N}$$

$$n^3 + 20n = 8k^3 + 40k$$

$$= 8k^3 - 8k + 48k$$

$$= 8(k-1)k(k+1) + 48k$$

div. by 48

3 is not div
by 3

3

If

(p-1)(p+1)

div. by 8

p is prime

p ≥ 5

P.T.

is div. by 3

p-1

is divisible

then

prime ≥ 5

by

24

p(p²-1)

= p³-p

is div by 24

div. by 3

(p-1)p(p+1)

div. by 8