

**Number system**

✚ **Counting numbers** are the set of numbers that we use to learn how to count.

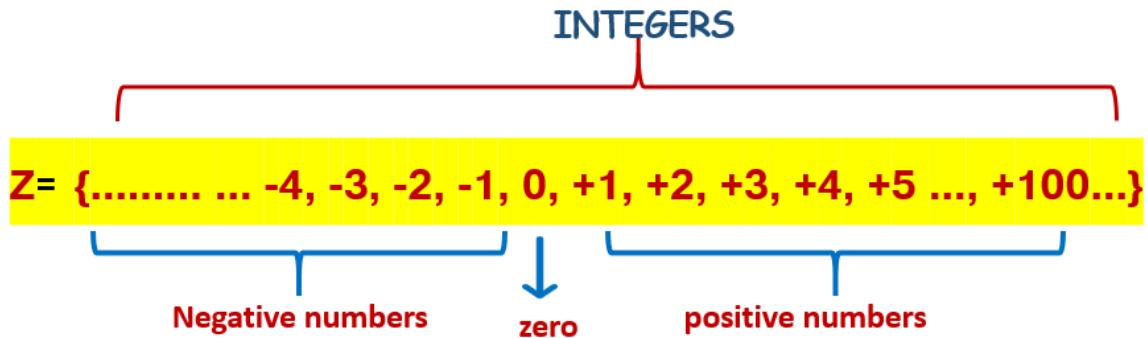
$$N = \{1, 2, 3, 4, 5, 6, \dots\}$$

✚ **Whole numbers** are the counting numbers which include zero.

$$W = \{0, 1, 2, 3, 4, 5, 6, \dots\}$$

✚ Set of **Integers** include whole numbers and negative whole numbers

**Integers** can be positive, negative, or zero. For example: 1, -1, 0, ...



A number which can be written in the form  $\frac{p}{q}$  where p and q are integers and  $q \neq 0$  is called **A RATIONAL NUMBER**.

4	)	1	(	0.25	→ ಅಂತ್ಯಗೊಳ್ಳುವ ದಶಮಾಂಶ ರೂಪ
				0	
				10	
				8	
				20	
				20	
				00	

ಅಂತ್ಯಗೊಂಡ ಭಾಗಾಕಾರ ಕ್ರಿಯೆ.

3	)	1	(	0.33	→ ಅಂತ್ಯಗೊಳ್ಳದ, ಅವರ್ತವಾಗುವ ದಶಮಾಂಶ ರೂಪ
				0	
				10	
				9	
				10	
				9	
				1	ಮುಂದುವರಿಸುತ್ತೇವೆ

ಅಂತ್ಯಗೊಳ್ಳದ ಭಾಗಾಕಾರ ಕ್ರಿಯೆ.

- Rational numbers are terminating and recurring decimals
- Set of Rational numbers is represented as **Q**

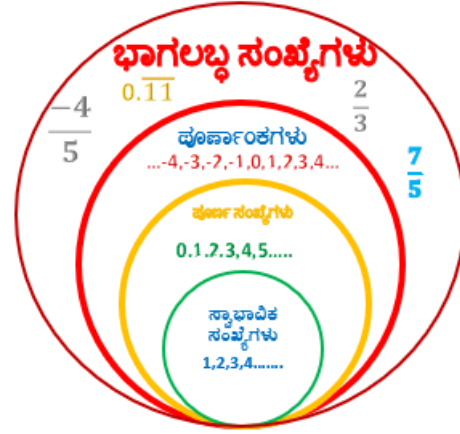
➤ **EXAMPLES:**  $\frac{2}{3}, \frac{22}{7}, -8, 0$

❖ Non-terminating and non-recurring decimals is **an IRRATIONAL NUMBER**

1. 5.30300300030000300000.....
2. 18.75775777577775.....
3. 286.29229922299922229999.....
4.  $\pi$  ನ ಬೆಲೆ  
 $\pi = 3.14159265358979323846264338327950288$   
 $41971693993751058209749445923078164062$   
 8.....

$\sqrt{3}, \sqrt{7}, \sqrt[3]{6}, \pi$  etc

## Venn diagram of numbers



✓ Rational numbers **CLOSED** under addition

example:  $5, 18 \in \mathbb{Q}$ ,  $5+18, 5-18, 5 \times 18 \in \mathbb{Q}$

✓ Rational numbers **COMMUTATIVE** under addition

$8, 11 \in \mathbb{Q}$ ,  $8+11=11+8$  ಮತ್ತು  $8 \times 11=11 \times 8$

✓ Rational numbers **ASSOCIATIVE** under addition

$9, 6, 14 \in \mathbb{Q}$ ,  $(9+6)+14=9+(6+14)$   
 $(9 \times 6) \times 14=9 \times (6 \times 14)$

✚ **Perfect square numbers:** The product of a number by the same number is its square

ಪೂರ್ಣವರ್ಗ ಸಂಖ್ಯೆಗಳು 1 4 9 16 25

$1 \xrightarrow{\text{ವರ್ಗ}} 1$   
 $\xleftarrow{\text{ವರ್ಗಮೂಲ}} 1$   
 $\sqrt{1} = 1$

$5 \xrightarrow{\text{ವರ್ಗ}} 25$   
 $\xleftarrow{\text{ವರ್ಗಮೂಲ}} 25$   
 $\sqrt{25} = 5$

Square root

ವರ್ಗಮೂಲದ ಚಿಹ್ನೆ  $\longrightarrow \sqrt{\quad}$

**CUBE** is a product of three equal whole numbers

Cubes 1, 8, 27, 64, 125

$2 \xrightarrow{\text{cube}} 8$

$\xleftarrow{\text{cuberoot}} 8$   
 Symbol of cube root  $\sqrt[3]{\quad}$

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### ACTIVITY / HOMEWORK



1) Write the square numbers from 1 to 30

2) write all cubes and square numbers in August month's dates

3) List out the cube of the first 15 numbers

4) Find the square of 38