

# Rational Numbers

What is the meaning of Rationals?

- Fractions
- Decimals
- Mixed Numbers

Percents

19%

Rational  
Numbers

Fraction

$$\frac{3}{4} = 0.75$$

Decimals

$$0.32 = \frac{32}{100} = \frac{16}{50} = \frac{8}{25}$$

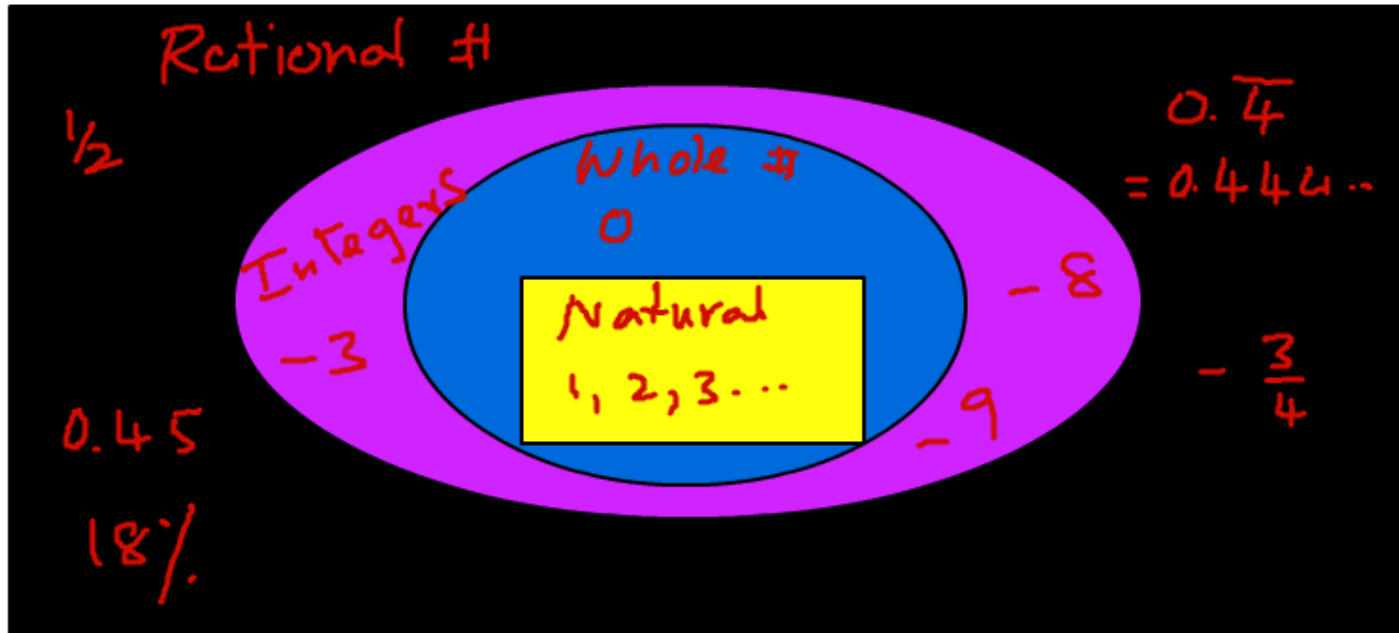
Mixed  
Numbers

$$3\frac{1}{11} = \frac{34}{11}$$

Rational Numbers



Rational Number



## Fraction to Decimal



①  $\frac{5}{8} = 0.625$

$$\begin{array}{r} .625 \\ 8 \overline{) 50} \\ \underline{48} \\ 20 \\ \underline{16} \\ 40 \\ \underline{40} \\ 0 \end{array}$$

$$\begin{array}{r} .0909 \\ 11 \overline{) 100} \\ \underline{99} \\ 100 \end{array}$$

Try

①  $\frac{3}{4} = .75$

②  $-\frac{2}{9} = -0.\overline{2}$   
 $= -0.222\dots$

③  $3\frac{1}{11} = 3.090909\dots$   
 $= 3.\overline{09}$

Decimal to fraction:

$$0.\overline{45}$$

$$X = 0.\overbrace{45}4545\dots$$

$$100X = 45.\overline{4545}\dots$$

$$\begin{array}{r} X \\ \hline 00 \end{array} \begin{array}{l} \cancel{45} \\ \cancel{45} \\ \cancel{45} \end{array} \dots$$

$$\frac{99X}{99} = \frac{45}{99}$$

$$X = \frac{45}{99}$$

Try

$$0.\overline{5} = \frac{5}{9}$$

Subtraction

$$\begin{array}{r} \text{Check} \\ +55 \\ \hline \end{array}$$

$$= 0.\overline{5}$$

$$9 \overline{) 50} \\ \underline{45} \\ 50 \\ \underline{45}$$