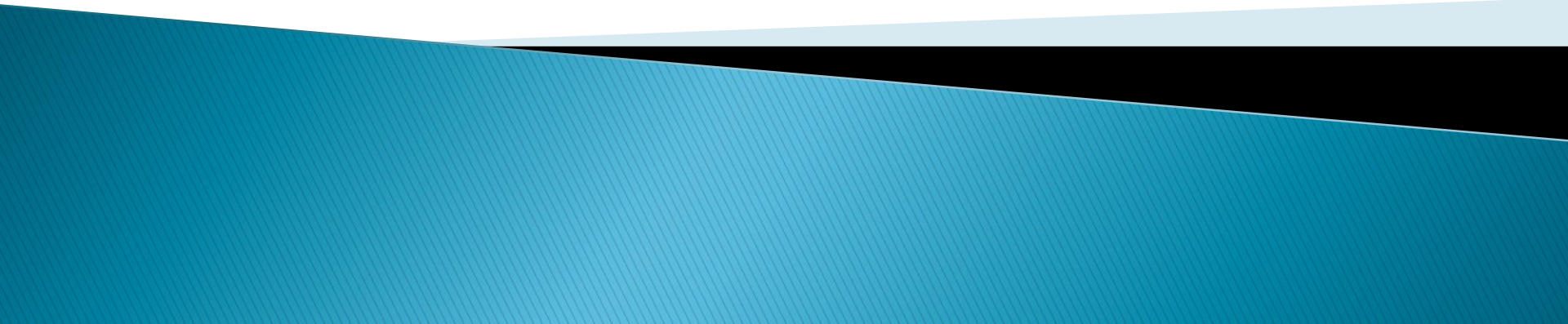


**BEST WAY TO  
UNDERSTAND**

**FRACTIONS**



# Fraction

▶ 2 Numerator (dividend)

▶ 5 Denominator (divisor)

# Proper vs. Improper Fraction

Proper Fraction – as it suggests, it is proper since the numerator does not exceed the denominator.

$\frac{1}{2}$  ,  $\frac{3}{4}$  ,  $\frac{5}{8}$

$\frac{3}{6}$ ,  $\frac{6}{8}$ ,  $\frac{10}{16}$

Improper fraction– numerator is greater than the denominator.

$\frac{9}{4}$ ,  $\frac{5}{3}$   $\longrightarrow$  mixed number

(quotient remainder/divisor)

e.g Convert  $9/4$  to mixed number.

9 divide by 4 gives a quotient of 2. The remainder is 1. Go back to the divisor 4.

So  $9/4 = 2 \frac{1}{4}$

To change Mixed to Improper (MI) just Multiply

Add (MI      MA)  $\rightarrow$

$2 \frac{1}{4} = 4 \text{ times } 2 \text{ plus } 1 = 9/4$

# Finding which is greater fraction

Which is greater  $\frac{1}{2}$  or  $\frac{2}{3}$ ?

**CROSS MULTIPLY METHOD**

$$\frac{1}{2} \quad \frac{2}{3}$$

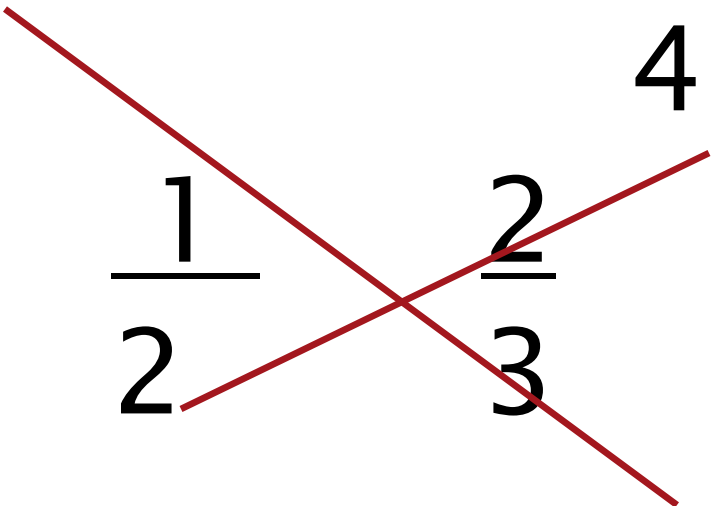
# Finding which is greater fraction

Which is greater  $\frac{1}{2}$  or  $\frac{2}{3}$ ?

## CROSS MULTIPLY METHOD

3

4


$$\frac{1}{2} \quad \frac{2}{3}$$

# Operations on Fraction

## Addition and Subtraction

Denominators are critical / should be the same

$$\frac{1}{2} + \frac{3}{4} \text{ (LCD of 4)}$$

after LCD (divide–multiply to get equiv fraction)

$$\frac{2}{4} + \frac{3}{4} = \frac{5}{4} \text{ or } 1 \frac{1}{4}$$

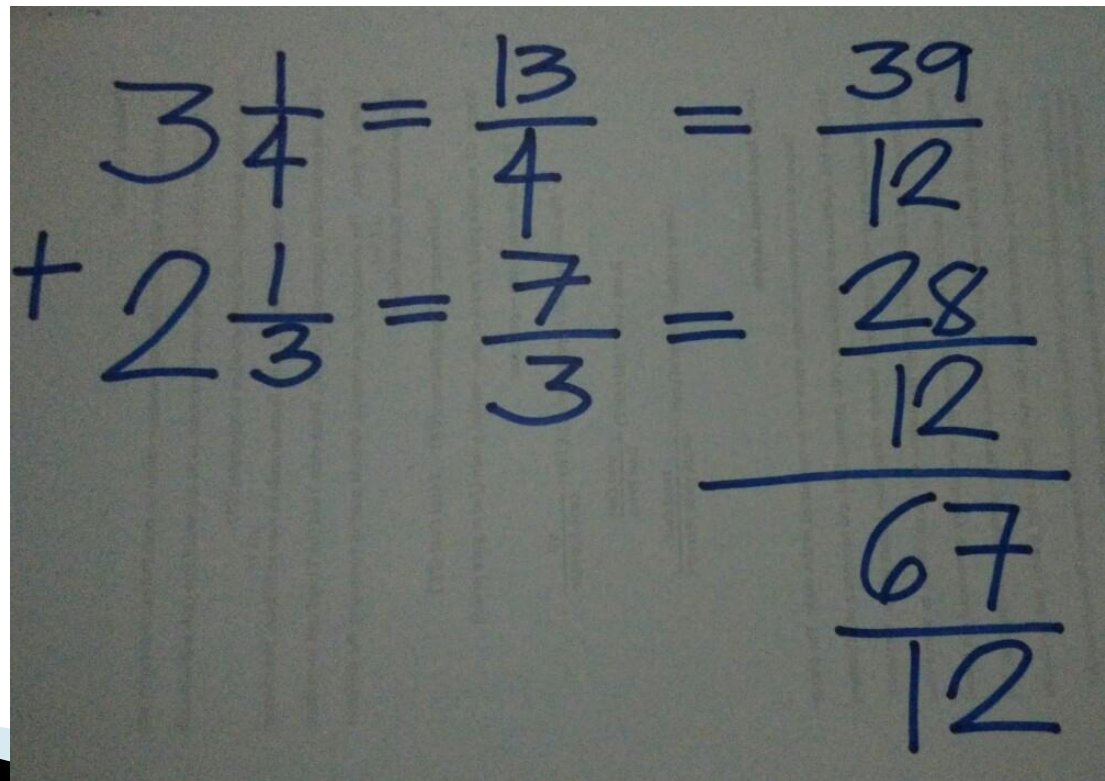
# Improper/mixed number addition/subtraction

$$3 \frac{1}{4} + 2 \frac{1}{3}$$

Could be done using the given mixed number or changing it to improper (MI-MA).

$$3 \frac{1}{4} = 13/4$$

$$2 \frac{1}{3} = 7/3$$



A photograph of a piece of paper with handwritten math in blue ink. It shows the conversion of mixed numbers to improper fractions and their addition. The first line is  $3\frac{1}{4} = \frac{13}{4} = \frac{39}{12}$ . The second line is  $+ 2\frac{1}{3} = \frac{7}{3} = \frac{28}{12}$ . A horizontal line is drawn under the second fraction, and the result  $\frac{67}{12}$  is written below it.

$$\begin{array}{r} 3\frac{1}{4} = \frac{13}{4} = \frac{39}{12} \\ + 2\frac{1}{3} = \frac{7}{3} = \frac{28}{12} \\ \hline \frac{67}{12} \end{array}$$



# MULTIPLICATION

- ▶ Numerator by numerator
- ▶ Denominator by denominator

$$\begin{array}{l} \text{▶ } \frac{2}{3} \times \frac{5}{6} = \frac{10}{18} \text{ or } \frac{5}{9} \end{array}$$

# DIVISION

- ▶ Find the reciprocal of the divisor and proceed to multiplication.
- ▶  $\frac{1}{2} \div \frac{3}{4} = \frac{1}{2} \times \frac{4}{3} = \frac{4}{3}$