

# Ordering and Comparing Fractions

## Two ways

### LCM

### Cross Multiply

good for comparing any number of fractions - especially long lists

good for comparing 2 fractions, 3 at the most

$$\frac{2}{3} \circ \frac{3}{4}$$

$$\begin{matrix} 8 & & 9 \\ \frac{2}{3} & \circ & \frac{3}{4} \end{matrix}$$

$$\begin{matrix} 8 & & 9 \\ \frac{2}{3} & \circ & \frac{3}{4} \end{matrix}$$

so

9 is bigger than 8

so

$$\frac{2}{3} \lt \frac{3}{4}$$

### \* cross multiply

- shortcut for finding LCM

- ① cross multiply the first denominator to the opposite numerator, and put answer on top.
- ② cross multiply the denominator and numerator to get that answer
- ③ whichever answer is higher is the larger fraction

54      48 → 54 is bigger

$$\begin{matrix} 54 & & 48 \\ \frac{5}{8} & \circ & \frac{6}{9} \end{matrix} \rightarrow \frac{5}{8} \lt \frac{6}{9}$$

\* when ordering mixed numbers, look at the whole number first

$$\frac{5}{6}, \frac{3}{4}, \frac{1}{2}, \frac{2}{3}$$

$$\frac{5}{6} \times \frac{2}{2} = \frac{10}{12}$$

$$\frac{3}{4} \times \frac{3}{3} = \frac{9}{12}$$

$$\frac{1}{2} \times \frac{6}{6} = \frac{6}{12}$$

$$\frac{2}{3} \times \frac{4}{4} = \frac{8}{12}$$



order fractions  
by numerator

$$\frac{6}{12}, \frac{8}{12}, \frac{9}{12}, \frac{10}{12}$$



use original  
fractions in answer

$$\boxed{\frac{1}{2}, \frac{2}{3}, \frac{3}{4}, \frac{5}{6}}$$

## \* LCM

- find the **Least Common Multiple** for all of the fractions
- make each fraction equivalent to its original by multiplying the numerator times the same number as the denominator
- once all the same denominator, just compare and order the **numerators**
- copy down original fractions to list the answer

## \* Warning!!!

Always pay attention as to which way to list them in order!

either...

least to greatest  
OR

greatest to least