

## Chapter 4: Adding and subtracting fractions

### Section 4.1 - Common denominators

Fraction - represents a part of a whole

2 } → Numerator - how many equal parts of the whole you are dealing with

3 } → Denominator - total number of equal parts that make up the whole.

**Equivalent fractions** - fractions that represent the same part of a whole ex.  $\frac{1}{2} = \frac{2}{4} = \frac{3}{6} = \frac{4}{8}$

**NOTE** - Before we can add or subtract fractions we must find a common denominator

### How to find a common denominator between two fractions

#### Example

#### Key Points

Find a common denominator between

$$\frac{2}{3} \text{ and } \frac{3}{5}$$

$$\text{LCM} = 15.$$

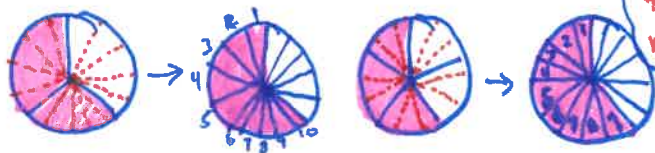
$$3: 3, 6, 9, 12, 15$$

$$5: 5, 10, 15, 20$$

$$\frac{2}{3} = \frac{10}{15}$$

$$\frac{3}{5} = \frac{9}{15}$$

• what ever you multiply the denominator by you must do the same to the numerator.



- Find the **Lowest Common Multiple (LCM)** between the two denominators
- Multiply the numerators by the same factor that you multiply the denominators by to reach the LCM

Try it out:

1.  $\frac{1}{3}$  and  $\frac{3}{4}$

2.  $\frac{1}{2}$  and  $\frac{1}{6}$

3.  $\frac{1}{7}$  and  $\frac{1}{11}$

**Determining which fraction is larger****Example****Key Points**

Order the fractions from smallest to largest.

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

$$\text{LCM} = 30$$

$$3: 3 \ 6 \ 9 \ 12 \ 15 \ 18 \ 21 \ 24 \ 27 \ \underline{30}$$

$$5: 5 \ 10 \ 15 \ 20 \ 25 \ \underline{30}$$

$$6: 6 \ 12 \ 18 \ 24 \ \underline{30}$$

$$\frac{3}{5} \xrightarrow{\times 6} \frac{18}{30} \text{ ③}$$

$$\frac{5}{6} \xrightarrow{\times 5} \frac{25}{30} \text{ ①}$$

$$\frac{2}{3} \xrightarrow{\times 10} \frac{20}{30} \text{ ②}$$

Smallest

Largest.

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