



## 1 - Add, Subtract, Multiply and Divide Fractions

### Addition and subtraction:

- 1) Find the lowest common multiple of the denominators.
- 2) Write the sum with blanks for numerators but with the denominator being 33.
- 3) We need to convert the original fractions to their equivalent fractions where the denominators are 33. Consider what you would have to multiply the denominator of the first fraction by to get 33. Also do that to the numerator.
- 4) Repeat this with the second fraction in your sum
- 5) Once the fractions have the same denominator, you can now add or subtract. The numerators should be added or subtracted but the denominator stays the same.
- 6) Simplify if you can.

$$\frac{2}{3} - \frac{2}{11}$$

The LCM of 3 and 11 is 33

$$\frac{2}{3} = \frac{?}{33}$$

x 11

$$2 \times 11 = 22$$

$$\frac{2}{11} = \frac{?}{33}$$

x 3

$$2 \times 3 = 6$$

$$\frac{22}{33} - \frac{6}{33} = \frac{16}{33}$$

### Multiplication:

- 1) Cancel by finding common factors of one of the numerators and one of the denominators.
- 2) Multiply together the numerators.
- 3) Multiply together the denominators.
- 4) Simplify if you can.

$$\frac{2}{3} \times \frac{6}{8}$$

$$\frac{1 \cancel{2}}{1 \cancel{3}} \times \frac{\cancel{6}^2}{\cancel{8}_4}$$

$$\frac{1 \cancel{2}}{1 \cancel{3}} \times \frac{\cancel{6}^2 \cancel{1}}{\cancel{8}_4 \cancel{2}}$$

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

### Division:

- 1) Use KFC  
**Keep** (the first fraction)  
**Flip** (the second fraction)  
**Change** (the sign to x)  
 2) Now complete the sum as a multiplication sum.

$$\frac{4}{7} \div \frac{2}{5}$$

$$2 \frac{4}{7} \times \frac{5}{2} = \frac{10}{7} = 1 \frac{3}{7}$$

### Linked Prior Topics

Equivalent fractions, Improper fractions,  
 Times table facts, Mixed numbers,  
 Lowest common multiples.

### Vocabulary

Add, Subtract, Multiply, Divide,  
 Common Factor, denominator, numerator

### Linked Future Topics

Algebraic fractions