

Fractions



Skills

- Simplify fractions
- Fractions on a number line
- Compare and order (denominator)
- Compare and order (numerator)
- Add and subtract fractions
- Multiply fractions by integers
- Multiply fractions by fractions
- Divide fractions by integers
- Four rules with fractions
- Fraction of an amount
- Fraction of an amount – find the whole

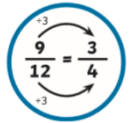
Vocabulary

Fraction, numerator, denominator, proper fraction, improper fraction, convert, factor, equivalent, simplify, mixed number, integer

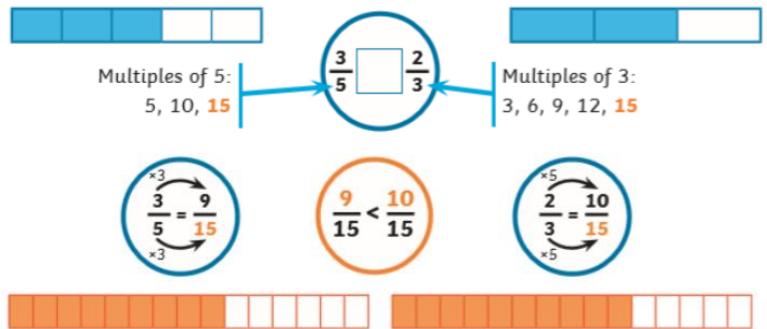
Simplify Fractions



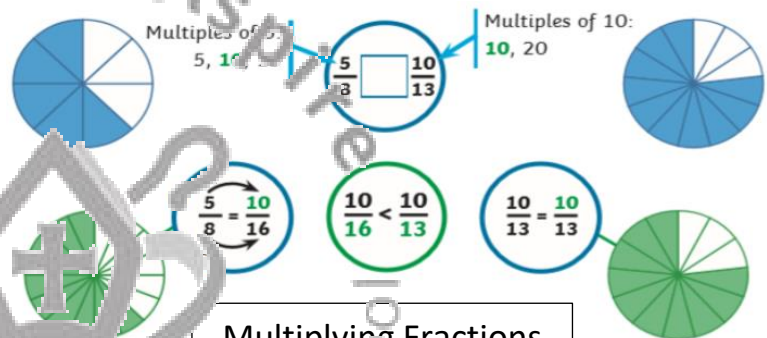
Factors of 9:
1, 3, 9
Factors of 12:
1, 2, 3, 4, 6, 12



Compare and Order (Denominator)



Compare and Order (Numerator)



Adding Fractions

When adding fractions, the denominator must be the same.

$$\frac{2}{10} + \frac{3}{5} = \frac{2}{10} + \frac{6}{10} = \frac{8}{10} = \frac{4}{5}$$

When adding fractions and whole numbers, add the fractions and whole numbers separately. Add both answers back together at the end.

$$2 \frac{2}{10} + 3 \frac{7}{10} =$$

$$2 + 3 = 5$$

$$\frac{2}{10} + \frac{7}{10} = \frac{9}{10} + 5 = 5 \frac{9}{10}$$

Subtracting Fractions

When subtracting fractions, the denominators must be the same.

$$\frac{5}{8} - \frac{1}{4} = \frac{5}{8} - \frac{2}{8} = \frac{3}{8}$$

When subtracting fractions and whole numbers, convert to improper fractions. Subtract both fractions. Simplify if possible.

$$2 \frac{1}{10} - \frac{8}{10} =$$

$$2 = \frac{20}{10}$$

$$\frac{21}{10} - \frac{8}{10} = \frac{13}{10} = 1 \frac{3}{10}$$

Multiplying Fractions

When multiplying two fractions together, you multiply the numerators together and then multiply the denominators together. Simplify your answer if possible.

$$\frac{4}{6} \times \frac{1}{3} = \frac{4 \times 1}{6 \times 3} = \frac{4}{18} = \frac{2}{9}$$

When multiplying a fraction by a whole number (integer), you must convert the whole number into a fraction over 1.

$$\frac{2}{5} \times 3 = \frac{2}{5} \times \frac{3}{1} = \frac{6}{5} = 1 \frac{1}{5}$$

Dividing Fractions

When dividing a fraction by a whole number (integer), you need to do the inverse and multiply the fraction by the whole number. Convert the whole number into a fraction under 1. Then multiply. Simplify your answer if possible.

$$\frac{2}{5} \div 2 = \frac{2}{5} \times \frac{1}{2} = \frac{2}{10} = \frac{1}{5}$$