

Dividing Fractions

To **divide fractions**, we use **reciprocals** to convert the calculation to an equivalent multiplication.

Reciprocal means **multiplicative inverse**.

 **Example** The reciprocal of 4 is $\frac{1}{4}$ because $4 \times \frac{1}{4} = 1$

Then we multiply the numerators and multiply the denominators.

 **Example**

Work out $\frac{9}{10} \div 5$

$$\frac{9}{10} \div 5 = \frac{9}{10} \times \frac{1}{5} = \frac{9 \times 1}{10 \times 5} = \frac{9}{50}$$

2 Multiply numerators.

3 Multiply denominators.

1 The reciprocal of 5 is $\frac{1}{5}$. We “flip” the second fraction.

 **Example**

Work out $\frac{2}{5} \div \frac{3}{4}$

$$\frac{2}{5} \div \frac{3}{4} = \frac{2}{5} \times \frac{4}{3} = \frac{2 \times 4}{5 \times 3} = \frac{8}{15}$$

2 Multiply numerators.

3 Multiply denominators.

1 The reciprocal of $\frac{3}{4}$ is $\frac{4}{3}$. We “flip” the second fraction.