

# Maths Mastery

Simplify Fractions and  
Common Denominators

## Answers

### Maths Mastery

1. The common factors of 24 and 30 are 1, 2, 3 and 6. Take the highest factor which is 6.

Divide 24 and 30 by 6.

$$\frac{24}{30} = \frac{4}{5}.$$

$\frac{4}{5}$  is the simplest form.

### Maths Mastery

2. Simplify these fractions into the simplest form, write the highest common factor with your answer:

$$\frac{7}{12} (2) \quad \frac{7}{10} (3) \quad \frac{5}{8} (5) \quad \frac{4}{7} (4)$$

$$\frac{3}{8} (8) \quad \frac{4}{9} (9) \quad \frac{3}{11} (12)$$



Write some for a partner.



### Maths Mastery

3. Using your own example explain how to use common multiples to express two fractions with different denominators as ones with the same denominator.

Take 2 fractions:  $\frac{1}{4}$  and  $\frac{2}{5}$ .

Find the common multiples of the denominators 4 and 5; 20, 40, 60 ...

Take the lowest common multiple, 20.

Express the fractions with the denominator 20 by multiplying the numerator and denominator of each fraction by the same number, so the denominator becomes 20.

$$\frac{1}{4} \begin{array}{l} \xrightarrow{\times 5} \\ \xrightarrow{\times 5} \end{array} \frac{5}{20}$$

$$\frac{2}{5} \begin{array}{l} \xrightarrow{\times 4} \\ \xrightarrow{\times 4} \end{array} \frac{8}{20}$$

4. Express the following pairs of fractions with the same denominator.

$$\frac{24}{30} \text{ and } \frac{6}{30}$$

$$\frac{9}{24} \text{ and } \frac{16}{24}$$

$$\frac{14}{20} \text{ and } \frac{15}{20}$$

$$\frac{24}{60} \text{ and } \frac{55}{60}$$

$$\frac{15}{60} \text{ and } \frac{16}{60}$$

$$\frac{27}{90} \text{ and } \frac{35}{90}$$

Write some of your own pairs for a partner to express with the same denominator.

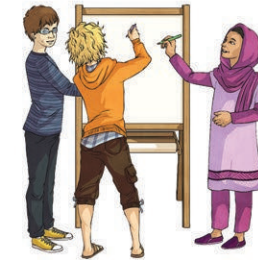
# Maths Mastery

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Common Denominators

## Challenge Cards

### Maths Mastery

1. Use Common Factors to Simplify Fractions  
Explain how you would use the common factors of 24 and 30 to express  $\frac{24}{30}$  in its simplest form.



### Maths Mastery

2. Convert these fractions into the simplest form; write the highest common factor with your answer:

$$\frac{14}{24}$$

$$\frac{21}{30}$$

$$\frac{25}{40}$$

$$\frac{16}{28}$$

$$\frac{24}{64}$$

$$\frac{36}{81}$$

$$\frac{36}{132}$$



Write some for a partner.



### Maths Mastery

3. Explain how to use common multiples to express two fractions that have different denominators (e.g.  $\frac{1}{4}$  and  $\frac{2}{5}$ ) as ones with the same denominator. Use your own example fractions.



4. Express the following pairs of fractions with the same denominator.

$$\frac{24}{30} \text{ and } \frac{1}{5}$$

$$\frac{3}{8} \text{ and } \frac{2}{3}$$

$$\frac{7}{10} \text{ and } \frac{3}{4}$$

$$\frac{2}{5} \text{ and } \frac{11}{12}$$

$$\frac{1}{4} \text{ and } \frac{4}{15}$$

$$\frac{3}{10} \text{ and } \frac{7}{18}$$

Write some of your own pairs for a partner to express with the same denominator.