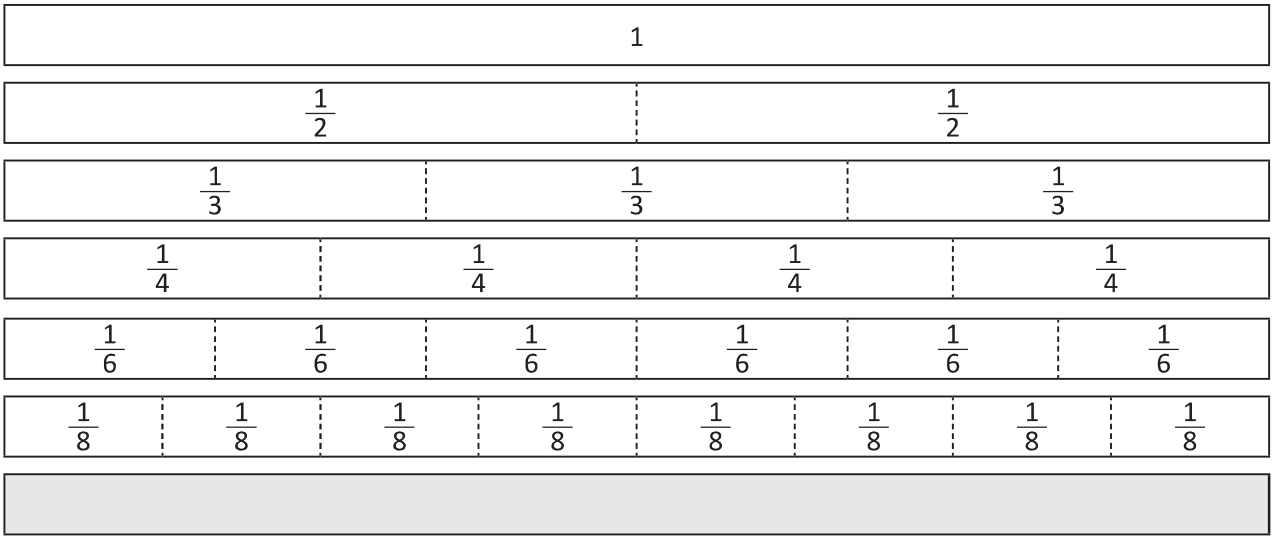
Fractions – equivalent fractions

Equivalent fractions have the same value but they have different numerators and denominators. This means they have been divided into a different number of parts.



1 **Use the wall to find the equivalent fractions:**

a What fractions can you find that are equivalent to $\frac{2}{3}$? _____

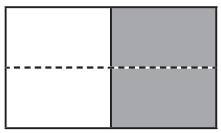
b What fractions can you find that are equivalent to $\frac{3}{4}$? _____

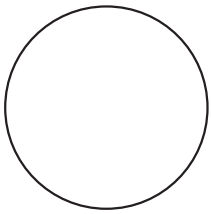
c How many eighths are equivalent to $\frac{1}{2}$? _____

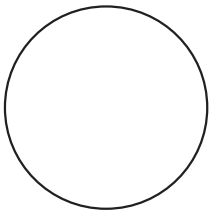
d How many quarters are equivalent to $\frac{4}{8}$? _____

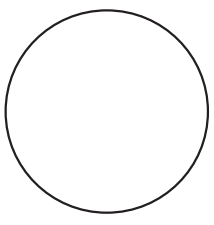
e Divide the bottom row into twelfths. Find some equivalent fractions for $\frac{4}{12}$. _____

2 **Divide and shade the shapes to show the following equivalent fractions. The first one has been done for you.**

a $\frac{1}{2} = \frac{2}{4}$ 

b $\frac{1}{4} = \frac{2}{8}$ 

c $\frac{3}{4} = \frac{6}{8}$ 

d $\frac{1}{2} = \frac{2}{4}$ 

e $\frac{1}{4} = \frac{2}{8}$ 

Fractions – equivalent fractions

To find equivalent fractions without drawing diagrams we use the numerators and denominators to guide us.

Imagine your share of a cake is half. It is too big to pick up so you cut your half into halves. You now have 2 quarters of the cake. So you can see that 2 quarters are equivalent to 1 half.

You have doubled the number of parts (the denominator) and by doing this you have doubled the number of parts (the numerator).

$\frac{1}{2} = \frac{2}{4}$ (× 2 above, × 2 below)

This method can be used to find all equivalent fractions. Whatever you do to the numerator, you do the same to the denominator, and vice versa.

3 **Use the clues to help you make the equivalent fractions:**

a $\frac{1}{3} = \frac{\square}{12}$ (× 4 above, × 4 below)

b $\frac{1}{2} = \frac{3}{\square}$ (× 3 above, × 3 below)

c $\frac{2}{3} = \frac{\square}{9}$ (× 3 above, × 3 below)

d $\frac{3}{8} = \frac{\square}{40}$ (× 5 above, × 5 below)

e $\frac{1}{3} = \frac{\square}{9}$

f $\frac{1}{4} = \frac{\square}{8}$

g $\frac{3}{4} = \frac{15}{\square}$

h $\frac{2}{4} = \frac{\square}{2}$

4 **We can also reduce the number of parts in a whole. We divide to do this:**

a $\frac{18}{24} = \frac{3}{\square}$ (÷ 6 above, ÷ 6 below)

b $\frac{9}{21} = \frac{3}{\square}$ (÷ 3 above, ÷ 3 below)

c $\frac{40}{48} = \frac{5}{\square}$ (÷ 8 above, ÷ 8 below)

d $\frac{12}{18} = \frac{\square}{3}$

e $\frac{12}{21} = \frac{4}{\square}$

f $\frac{25}{40} = \frac{\square}{8}$

5 **Answer the following:**

a Cassie's table won a pizza for having the most table points at the end of term. There are 6 pupils at the table. What fraction of the pizza will they each receive? $\frac{\square}{\square}$

b The pizza has been cut into 12 pieces. How many slices does each pupil get? _____

What is this as a fraction? $\frac{\square}{\square}$

c Stavros reckons that because they got 2 slices they got more than they would have if the pizza had been cut into 6 pieces. Is he right? Explain your answer with words or diagrams.