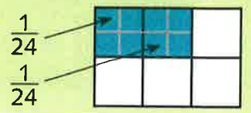
Fraction division problems

Divide proper fractions by whole numbers

Example

$\frac{2}{6} \div 4 = \frac{2}{6 \times 4} = \frac{2}{24} = \frac{1}{12}$

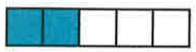


Challenge 1

1 Work out these fraction division calculations.

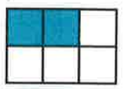
a $\frac{2}{3} \div 4$ 

b $\frac{1}{6} \div 3$ 

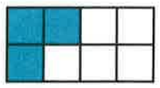
c $\frac{2}{5} \div 3$ 

d $\frac{3}{4} \div 2$ 

e $\frac{1}{2} \div 5$ 

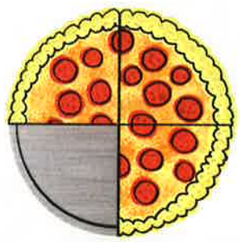
f $\frac{2}{6} \div 3$ 

g $\frac{3}{5} \div 4$ 

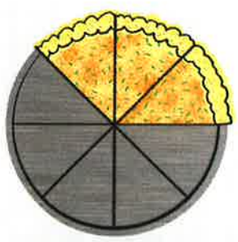
h $\frac{3}{8} \div 2$ 

i $\frac{4}{6} \div 3$ 

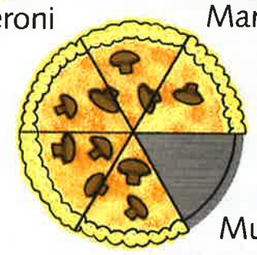
2 Four friends have these pizzas to share. How much of each pizza will each of them get?



Pepperoni



Margarita



Mushroom

Challenge 2

1 Work out these fraction division calculations.
Make sure your answers are simplified.

a $\frac{3}{4} \div 5$ **b** $\frac{5}{8} \div 4$ **c** $\frac{6}{10} \div 3$ **d** $\frac{3}{7} \div 2$ **e** $\frac{4}{9} \div 3$ **f** $\frac{6}{8} \div 4$

g $\frac{4}{5} \div 3$ **h** $\frac{8}{10} \div 5$ **i** $\frac{3}{5} \div 9$ **j** $\frac{9}{10} \div 6$ **k** $\frac{11}{12} \div 3$ **l** $\frac{2}{9} \div 5$

2 Choose one of the calculations from Question 1 and draw a diagram to go with it.

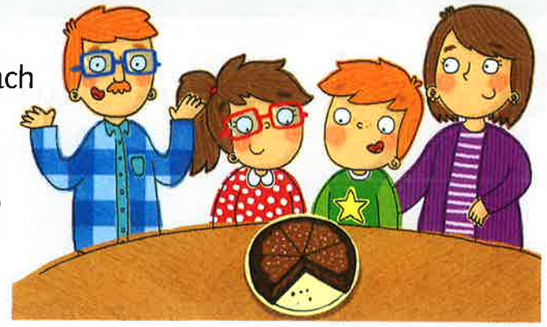
3 Work out these word problems.

a Gemma has a piece of string. She cuts it so that she has $\frac{6}{8}$ of it and gives the rest to her brother. She uses her part to tie up five plants in her garden. What fraction of the original length of string does she use on each plant?

b The Cooper family have $\frac{5}{7}$ of a cake left.

i What fraction of the whole cake will each of them get if they share it equally?

ii Dad says, "As I made the cake, I think I should get extra, so count me as two people." How much would they each get if they agreed to do this?



c Six cats have found half a fish to share.

i How much of a whole fish will each of them get?

ii Luckily one of them then finds $\frac{3}{4}$ of another fish to share. What fraction of this whole fish will they get?

d Mrs Phillips has asked five children to stay in at lunch time to discuss their maths. She has half an hour with them. What fraction of an hour will each child have if she sees each child individually for the same length of time?

Challenge 3

Work out these word problems.

a Colin the cook has $\frac{3}{8}$ kg of sugar. He bakes 5 cakes.

i What fraction of a kilogram of sugar is in each cake?

ii How many grams of sugar are in each cake?

b Colin has made pastry. He used 0·7 kg of flour. He rolls $\frac{4}{5}$ of it out into a long strip. He cuts this into eight pieces.

i What fraction of the flour is in each piece?

ii What mass of flour is in each piece?

c Colin has $\frac{6}{10}$ left of the pie he baked yesterday. Four customers have each just ordered a slice of pie.

i What fraction of the whole pie would each of them get if what is left is shared equally?

ii Before he serves his customers Colin decides he is hungry and would also like a piece of pie. What fraction of the whole pie will each of them get now?