Add fractions

1 Complete the additions.

Use the bar models to help you.

a)

$\frac{1}{3} + \frac{1}{3} = \square$

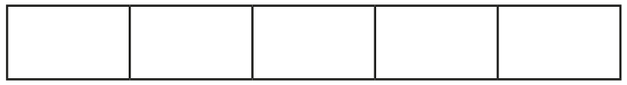
b)

$\frac{1}{5} + \frac{1}{5} = \square$

c)

$\frac{1}{5} + \frac{2}{5} = \square$

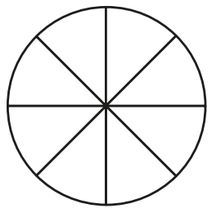
d)



$\frac{1}{5} + \frac{3}{5} = \square$

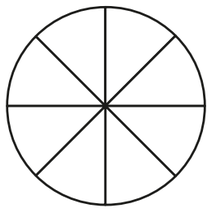
2 Shade the circles and complete the additions.

a)



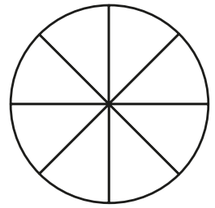
$\frac{1}{8} + \frac{3}{8} = \square$

b)



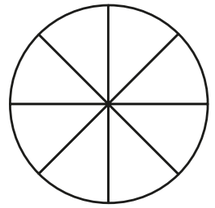
$\frac{5}{8} + \frac{1}{8} = \square$

c)



$\frac{3}{8} + \frac{3}{8} = \square$

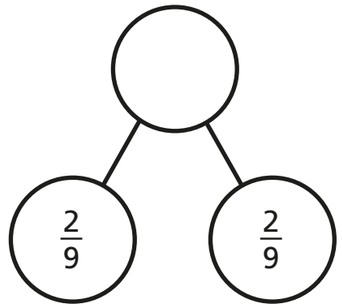
d)



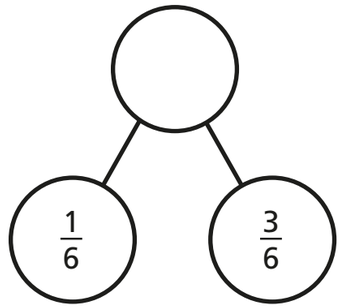
$\frac{5}{8} + \frac{3}{8} = \square$

3 Complete the part-whole models.

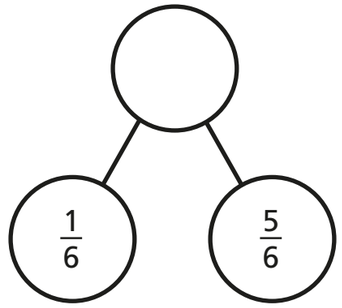
a)



b)



c)



Which part-whole model is the odd one out? _____

Talk about your choice with a partner. Did they choose the same odd one out?

4 Alex and Huan are eating a cake.

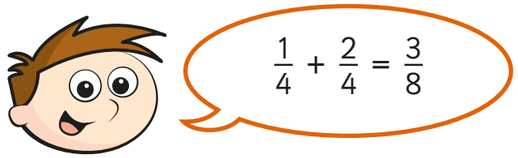
Alex eats $\frac{4}{7}$ of the cake.

Huan eats $\frac{2}{7}$ of the cake.

What fraction of the cake have they eaten altogether?

They have eaten ☐ of the cake altogether.

5 Teddy is adding fractions.



a) Draw a bar model to show that Teddy is wrong.

b) Complete the addition $\frac{1}{4} + \frac{2}{4} =$ ☐

6 Annie has baked 12 muffins.

She puts them into 2 boxes.

What fraction of the muffins could she put in each box?

Complete the table to show different possibilities.

One has been done for you.

Box 1	Box 2
$\frac{1}{12}$	$\frac{11}{12}$

Are there any other possibilities? Talk about it with a partner.

7 Complete the additions.

a) $\frac{3}{8} + \frac{4}{8} =$ ☐

b) $\frac{3}{9} + \frac{4}{9} =$ ☐

c) $\frac{3}{29} + \frac{4}{29} =$ ☐

d) $\frac{3}{103} + \frac{4}{103} =$ ☐

e) $\frac{5}{31} + \frac{9}{31} =$ ☐

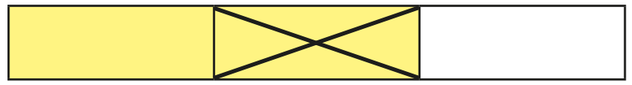
f) $\frac{17}{111} + \frac{33}{111} =$ ☐

Subtract fractions

1 Complete the subtractions.

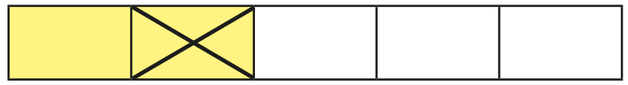
Use the bar models to help you.

a)



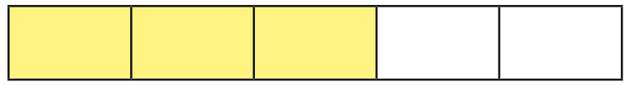
$\frac{2}{3} - \frac{1}{3} = \square$

b)



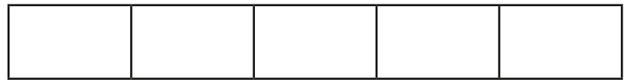
$\frac{2}{5} - \frac{1}{5} = \square$

c)



$\frac{3}{5} - \frac{1}{5} = \square$

d)



$\frac{4}{5} - \frac{1}{5} = \square$

2 Jack has $\frac{7}{8}$ of a chocolate bar.

He eats $\frac{4}{8}$ of the chocolate bar.

What fraction of the chocolate bar does he have left?

Jack has $\square$ of the chocolate bar left.

3 Complete the subtractions.

Simplify your answers where possible.

a) $\frac{7}{10} - \frac{1}{10} = \square = \square$

b) $\frac{7}{10} - \frac{2}{10} = \square = \square$

c) $\frac{7}{10} - \frac{3}{10} = \square = \square$

d) $\frac{7}{12} - \frac{3}{12} = \square = \square$

e) $\frac{8}{12} - \frac{4}{12} = \square = \square$

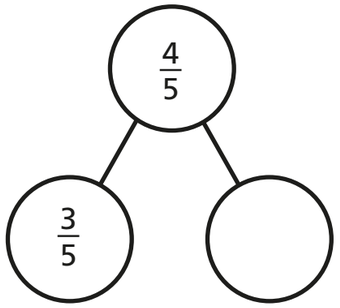
f) $\frac{9}{12} - \frac{5}{12} = \square = \square$

g) $\frac{9}{59} - \frac{5}{59} = \square$

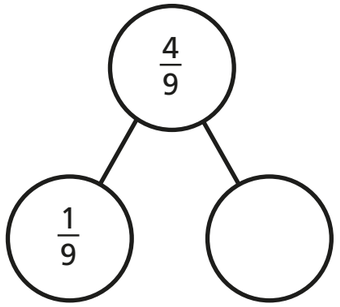
h) $\frac{13}{127} - \frac{9}{127} = \square$

4 Complete the part-whole models.

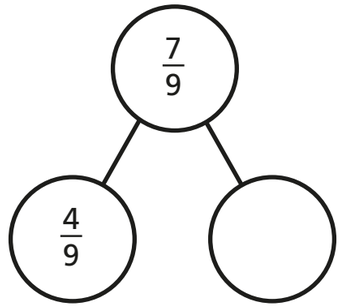
a)



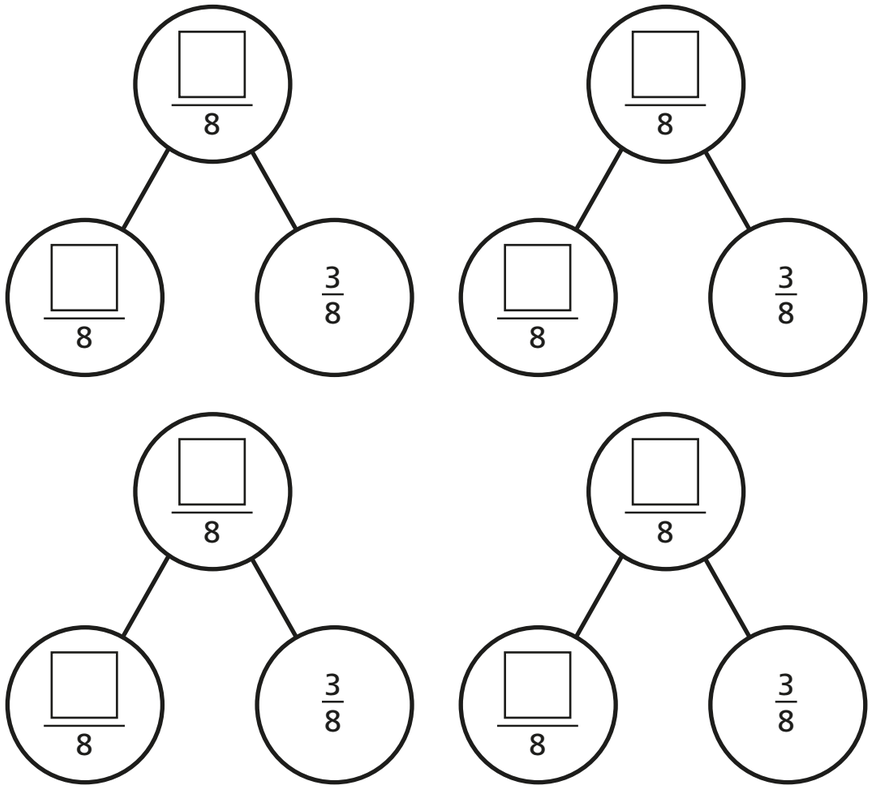
b)



c)



5 Complete the part-whole model in four different ways.



6 Kim has read $\frac{6}{7}$ of her book.

Tom has read $\frac{2}{7}$ of his book.

a) Shade the bar models to represent this information.

Kim

Tom

b) How much more has Kim read than Tom?

Kim has read ☐ more of her book than Tom.

7 Write the missing numerators.

a) $\frac{8}{9} - \frac{\square}{9} = \frac{7}{9}$

b) $\frac{5}{11} - \frac{\square}{11} = \frac{4}{11}$

c) $\frac{8}{9} - \frac{\square}{9} = \frac{3}{9} + \frac{4}{9}$

d) $\frac{7}{9} - \frac{5}{9} = \frac{\square}{9} - \frac{4}{9}$

e) $\frac{7}{10} - \frac{5}{10} = \frac{1}{10} + \frac{\square}{10}$

f) $\frac{\square}{4} - \frac{1}{4} = \frac{1}{4} + \frac{1}{4}$

g) $\frac{\square}{5} - \frac{2}{5} = \frac{1}{5} + \frac{2}{5}$

h) $\frac{4}{5} + \frac{1}{5} = \frac{3}{7} - \frac{2}{7} + \frac{\square}{7}$

8 Complete the table to show three possible values of the square and triangle.

$\frac{\triangle}{92} - \frac{\square}{92} = \frac{13}{92}$

△	□

How many other answers can you find?

Problem Solving

Your turn

1 The jug is $\frac{4}{7}$ full.

It needs 72 ml more to be full.

How much water can the jug hold in total?

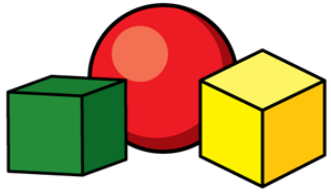
2 A box is full of spheres and cubes.

$\frac{5}{6}$ of the shapes are cubes.

$\frac{3}{4}$ of the cubes are yellow.

There are 60 yellow cubes in the box.

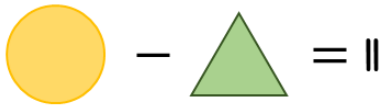
How many shapes are there in total?

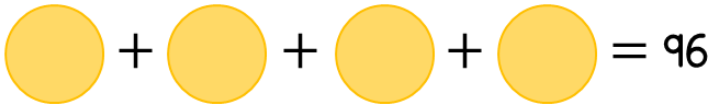


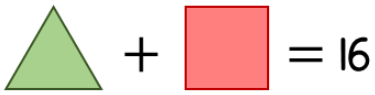
Problem Solving

Your turn

3 Complete the calculations.







4 An apple and banana cost the same as two pears.

Three pears cost £1.20

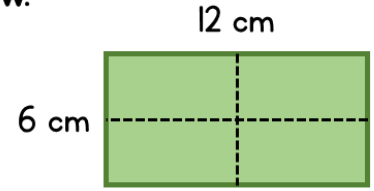
A pear costs 12p more than an apple.

What is the cost of a banana?

Problem Solving

11 Your turn

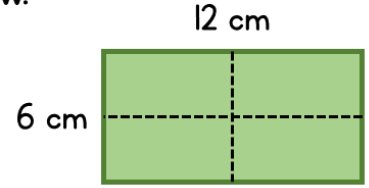
1 A rectangle has a length of 12 cm and a width of 6 cm.
It is cut in quarters like shown below.



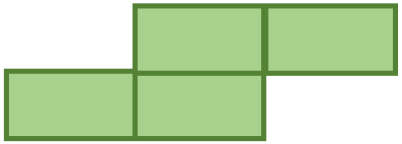
The four parts are put together to make the following shape.

What is the perimeter of the new shape?

2 A rectangle has a length of 12 cm and a width of 6 cm.
It is cut in quarters like shown below.



The four parts are put together to make the following shape.



What other perimeters could be made?

Problem Solving

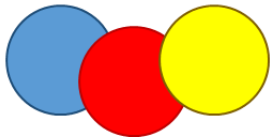
Your turn

3 There are 81 red, blue and yellow counters in total.

There are 9 more red counters than yellow ones.

There are the same amount of yellow and blue counters.

How many of each colour are there?



4 There are 81 red, blue and yellow counters in total.

There are 9 more red counters than yellow ones.

There are the same amount of red and blue counters.

How many of each colour are there?