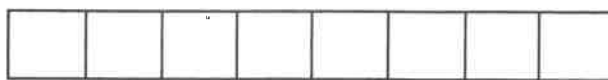


3 Use the diagrams to help you work out the calculations.

a) $\frac{3}{8} + \frac{3}{4}$



$\frac{3}{4} = \frac{\boxed{}}{8}$



$\frac{3}{8} + \frac{3}{4} = \frac{3}{8} + \frac{\boxed{}}{8} = \frac{\boxed{}}{8} = \boxed{} \frac{\boxed{}}{\boxed{}}$

b) $\frac{5}{12} + \frac{2}{3}$



4 What is the total amount of juice in the two bottles, in litres?



5 Work out these fraction additions.

a) $\frac{7}{10} + \frac{11}{20}$



b) $\frac{11}{15} + \frac{4}{5}$



6 Work out the missing fractions.

CHALLENGE

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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a) $\frac{1}{2} + \frac{\boxed{}}{\boxed{}} = \frac{17}{12}$

d) $\frac{1}{2} + \frac{\boxed{}}{\boxed{}} = 1\frac{1}{12}$

b) $\frac{2}{3} + \frac{\boxed{}}{\boxed{}} = \frac{17}{12}$

e) $\frac{2}{3} + \frac{\boxed{}}{\boxed{}} = 1\frac{1}{12}$

c) $\frac{5}{6} + \frac{\boxed{}}{\boxed{}} = \frac{17}{12}$

f) $\frac{\boxed{}}{\boxed{}} + \frac{5}{6} = 1\frac{1}{12}$

Reflect

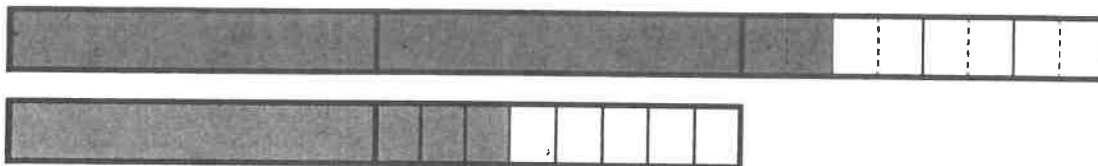
Max is working out $\frac{2}{3} + \frac{7}{9}$. He says the answer is $\frac{9}{12}$.

What mistake has Max made?

Adding fractions 2

- 1 Olivia walks $2\frac{1}{4}$ km on Monday. On Tuesday she walks $1\frac{3}{8}$ km.

How far does she walk in total?



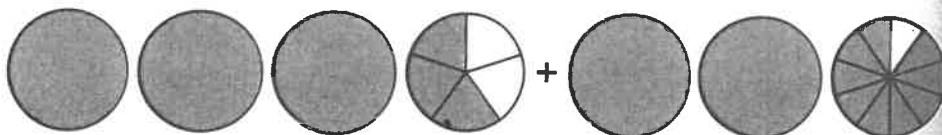
Add the wholes: $2 + 1 =$

Find a common denominator: $\frac{1}{4} = \frac{\text{ }{}}{8}$

Add the parts: $\frac{1}{4} + \frac{3}{8} = \frac{\text{ }{}}{8} + \frac{3}{8} = \frac{\text{ }{}}{8}$

Olivia walks $\frac{\text{ }{}}{\text{ }}$ km in total.

- 2 Work out $3\frac{3}{5} + 2\frac{9}{10}$.



Add the wholes:



Find a common denominator: $\frac{3}{5} = \frac{\text{ }{}}{\text{ }}$

Add the parts: $\frac{3}{5} + \frac{9}{10}$



So, $3\frac{3}{5} + 2\frac{9}{10} =$

- 3 a) Work out $1\frac{1}{2} + \frac{1}{6}$.



$$1\frac{1}{2} + \frac{1}{6} =$$

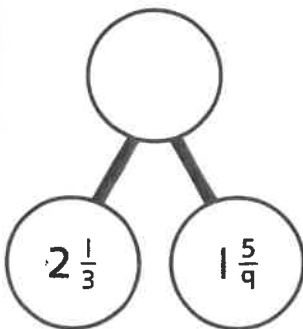
- b) Work out $\frac{7}{12} + 3\frac{2}{3}$.



- c) Explain why $2\frac{7}{12} + 1\frac{2}{3}$ is the same as the answer to part b).

- 4 Work out the missing value.

a)



b)

?	
$2\frac{1}{3}$	$4\frac{5}{9}$

What did you notice about the answer to part b)? Explain.

- 5 Part of the workings for adding two fractions are shown.



What could the two fractions be? Complete the answer.

$$3 + 5 = 8$$

$$\frac{2}{3} + \frac{5}{6} = \frac{4}{6} + \frac{5}{6}$$

$$= \frac{9}{6}$$

$$= 1\frac{3}{6}$$



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

- 6 What is the missing fraction?

$$2\frac{3}{4} + \frac{\square}{\square} = 3\frac{7}{12}$$

CHALLENGE



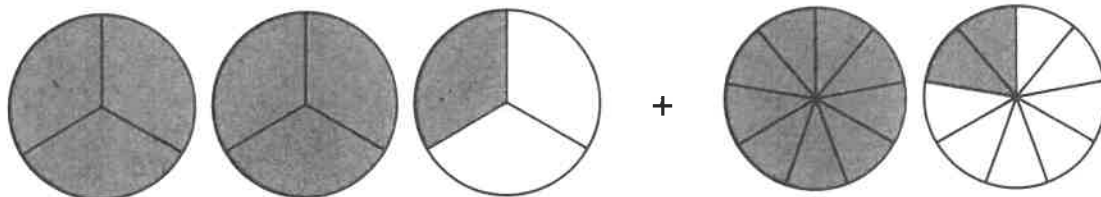
Reflect

How can you use $\frac{1}{2} + \frac{1}{8} = \frac{5}{8}$ to work out $4\frac{1}{2} + 3\frac{1}{8}$?



Adding fractions 3

1 Work out $2\frac{1}{3} + 1\frac{2}{9}$.



Change each number to an improper fraction first:

$$2\frac{1}{3} = \frac{\boxed{}}{3}$$

$$1\frac{2}{9} = \frac{\boxed{}}{9}$$

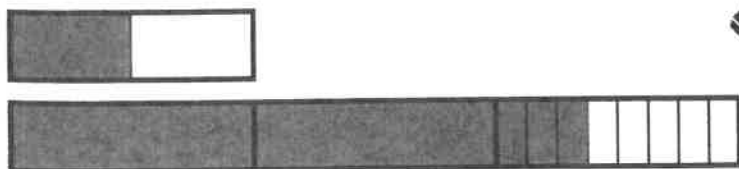
Find a common denominator: $\frac{\boxed{}}{3} = \frac{\boxed{}}{9}$

Add the fractions: $\frac{\boxed{}}{9} + \frac{\boxed{}}{9} = \frac{\boxed{}}{9}$

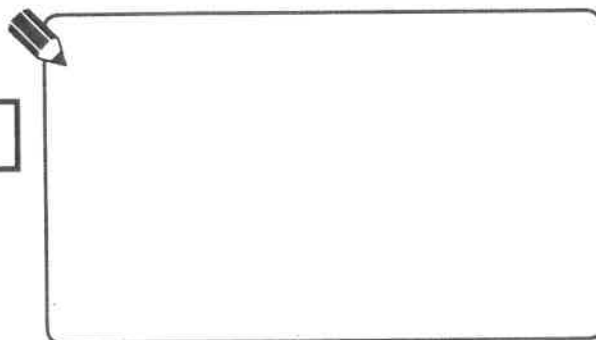
$$= \boxed{} \frac{\boxed{}}{9}$$

So, $2\frac{1}{3} + 1\frac{2}{9} = \boxed{} \frac{\boxed{}}{\boxed{}}$,

2 Convert $2\frac{3}{8}$ to an improper fraction to work out $\frac{1}{2} + 2\frac{3}{8}$.



$$\frac{1}{2} + 2\frac{3}{8} = \boxed{} \frac{\boxed{}}{\boxed{}}$$



3 Work out the following.

a) $2\frac{1}{4} + \frac{5}{8}$

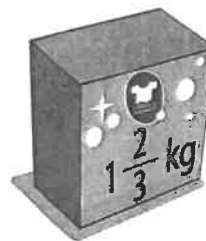
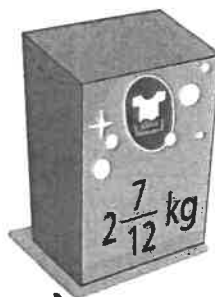
c) $4\frac{2}{5} + 1\frac{3}{20}$

b) $4\frac{7}{10} + 1\frac{1}{2}$

d) $\frac{7}{16} + 4\frac{3}{4}$

4 Washing powder is sold in two sizes.

What is the total weight of the two boxes?



The total weight of the two boxes is kg.

5 Kate is adding $13\frac{2}{5}$ and $4\frac{7}{50}$.

She says, 'I think I will add the wholes and the parts instead of converting to improper fractions.'

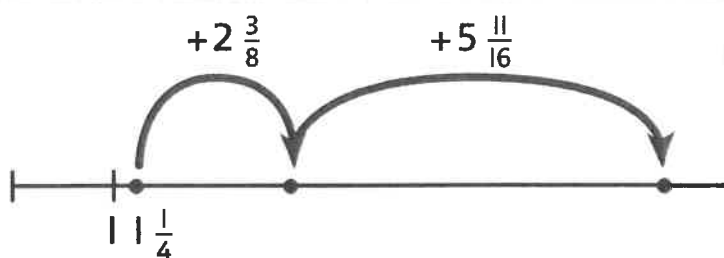
Do you agree with Kate? Explain your answer.



- 6 Find the missing fractions in the working out.

$$\begin{aligned}
 & \boxed{} \frac{\boxed{}}{6} + \boxed{} \frac{\boxed{}}{12} \\
 &= \frac{\boxed{}}{\boxed{}} + \frac{\boxed{}}{12} \\
 &= \frac{22}{12} + \frac{19}{12} = \frac{\boxed{}}{12} = 3 \frac{\boxed{}}{12}
 \end{aligned}$$

- 7 Max is making jumps on a number line.



CHALLENGE

- a) What number has Max finished on?



- b) Max makes one more jump and lands on 12. How long was his jump?



Reflect

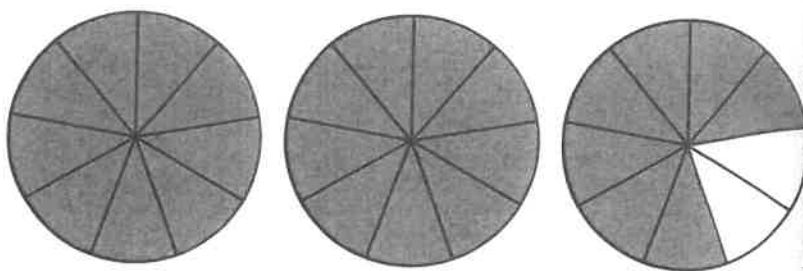
Which method do you prefer when adding $3 \frac{9}{10}$ and $1 \frac{3}{20}$?

Subtracting fractions 1

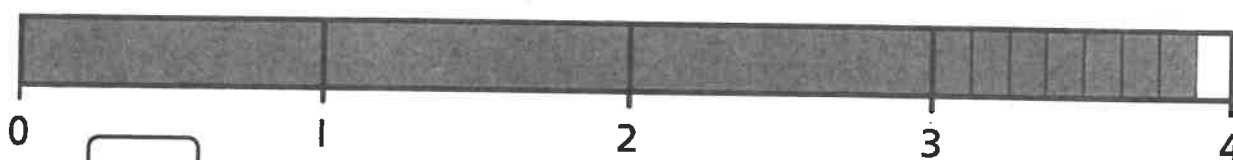
- 1 Work out $2\frac{7}{9} - \frac{5}{9}$.

$$\frac{7}{9} - \frac{5}{9} = \frac{\boxed{}}{\boxed{}}$$

$$\text{So, } 2\frac{7}{9} - \frac{5}{9} = \boxed{} \frac{\boxed{}}{\boxed{}}$$



- 2 a) Work out $3\frac{7}{8} - \frac{1}{4}$.



$$\frac{1}{4} = \frac{\boxed{}}{8}$$

$$3\frac{7}{8} - \frac{1}{4} = 3\frac{7}{8} - \frac{\boxed{}}{8}$$

$$= 3\frac{\boxed{}}{8}$$

- b) Work out $3\frac{7}{8} - \frac{1}{2}$.

$$\frac{1}{2} = \frac{\boxed{}}{8}$$

$$3\frac{7}{8} - \frac{1}{2} = 3\frac{7}{8} - \frac{\boxed{}}{8}$$

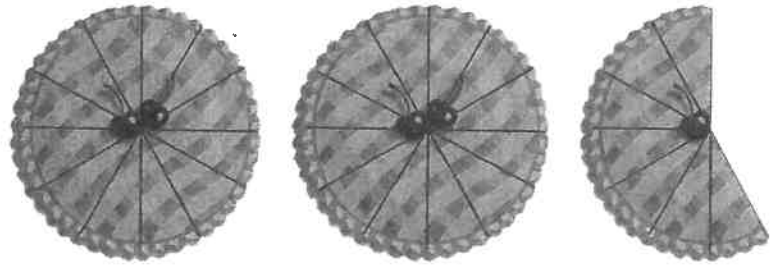
$$= 3\frac{\boxed{}}{8}$$

- c) Work out:

$$3\frac{7}{8} - 1 = \boxed{} \frac{\boxed{}}{\boxed{}}$$

$$3\frac{7}{8} - \frac{7}{8} = \boxed{}$$

- 3 A bakery sells cherry pies.
 Each pie is cut into 12 slices.
 The bakery has $2\frac{7}{12}$ pies left.
 A customer buys $\frac{1}{3}$ of a pie.
 How many pies are left?



There are pies left.

- 4 Work out the following questions. Draw a diagram if this will help.

a) $2\frac{3}{4} - \frac{1}{2}$



c) $2\frac{3}{4} - \frac{3}{8}$



b) $1\frac{7}{10} - \frac{1}{2}$



d) $1\frac{7}{10} - \frac{3}{5}$



5 Work out the missing fractions.

a) $4\frac{5}{8} - \frac{\boxed{}}{\boxed{}} = 4\frac{1}{8}$

c) $\frac{\boxed{}}{\boxed{}} - \frac{2}{9} = 3\frac{7}{9}$

b) $\frac{\boxed{}}{\boxed{}} - \frac{2}{9} = 3\frac{5}{9}$

d) $8\frac{7}{12} - \frac{\boxed{}}{\boxed{}} = 8$

6 Two TV shows last $2\frac{7}{8}$ hours in total.

Adverts in the two shows last $\frac{1}{4}$ of an hour in total.

The first show lasts $\frac{1}{2}$ an hour.

How long does the second show last?

CHALLENGE



The second show lasts $\frac{\boxed{}}{\boxed{}}$ hours.

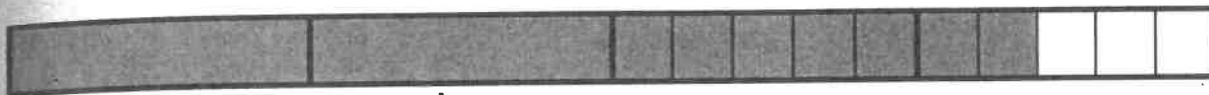
Reflect

How do you know that $2\frac{3}{5} - \frac{3}{10}$ is greater than 2?



Subtracting fractions 2

- 1 a) Use the diagram to help you work out $3\frac{2}{5} - \frac{4}{5}$.



$$3\frac{2}{5} = 2 \frac{\boxed{}}{5}$$

$$2 \frac{\boxed{}}{5} - \frac{4}{5} = 2 \frac{\boxed{}}{5}$$

$$\text{So, } 3\frac{2}{5} - \frac{4}{5} = 2 \frac{\boxed{}}{5}$$

- b) Use the diagram to help you work out $2\frac{3}{8} - \frac{7}{8}$.



$$2\frac{3}{8} = 1 \frac{\boxed{}}{8}$$

$$1 \frac{\boxed{}}{8} - \frac{7}{8} = 1 \frac{\boxed{}}{8}$$

$$\text{So, } 2\frac{3}{8} - \frac{7}{8} = 1 \frac{\boxed{}}{\boxed{}}$$

- 2 Work out the missing fractions.



a) $1\frac{2}{7} - \frac{\boxed{}}{7} = \frac{6}{7}$

c) $1\frac{2}{7} - \frac{\boxed{}}{7} = \frac{2}{7}$

b) $1\frac{2}{7} - \frac{\boxed{}}{7} = \frac{4}{7}$

d) $1\frac{2}{7} - \frac{\boxed{}}{7} = \frac{8}{7}$



- 3 a) Work out $4\frac{1}{4} - \frac{7}{8}$.



$$4\frac{1}{4} = 4\frac{\boxed{}}{8} = 3\frac{\boxed{}}{8}$$

$$3\frac{\boxed{}}{8} - \frac{7}{8} = 3\frac{\boxed{}}{8}$$

$$\text{So, } 4\frac{1}{4} - \frac{7}{8} = 3\frac{\boxed{}}{8}$$

- b) Work out $2\frac{3}{5} - \frac{9}{10}$.



- 4 Calculate the following.

a) $5\frac{1}{3} - \frac{7}{9}$

c) $7\frac{2}{14} - \frac{3}{7}$

b) $5\frac{1}{3} - \frac{11}{12}$

d) $4\frac{5}{24} - \frac{2}{3}$



- 5 3 sandwiches are each cut into 8 pieces.

Lexi eats $\frac{5}{8}$ of one of the sandwiches.

Danny eats one more piece than Lexi.

How many sandwiches are left?

There are sandwiches left.



- 6 Work out what numbers the symbols represent.

$$2\frac{1}{2} - \blacktriangle = 1\frac{11}{12}$$

$$3\frac{5}{6} - \blacktriangle = 4\frac{1}{3} - \bullet$$

CHALLENGE



$$\blacktriangle = \boxed{}$$

$$\bullet = \boxed{}$$

Reflect

How do you know that $2\frac{2}{5} - \frac{9}{20}$ is less than 2?

Subtracting fractions ③

- 1 Work out $3\frac{5}{6} - 1\frac{1}{3}$.



$$1\frac{1}{3} = 1\frac{\boxed{}}{6}$$

Subtract the wholes: $3 - 1 = \boxed{}$

Subtract the parts: $\frac{5}{6} - \frac{\boxed{}}{6} = \frac{\boxed{}}{6}$

$$3\frac{5}{6} - 1\frac{1}{3} = \boxed{}\frac{\boxed{}}{6} = \boxed{}\frac{\boxed{}}{\boxed{}}$$

- 2 Work out $4\frac{3}{4} - 2\frac{5}{8}$.



$$4\frac{3}{4} = 4\frac{\boxed{}}{8}$$



Subtract the wholes: $4 - 2 = \boxed{}$

Subtract the parts: $\frac{\boxed{}}{8} - \frac{5}{8} = \frac{\boxed{}}{8}$

$$4\frac{3}{4} - 2\frac{5}{8} = \boxed{}\frac{\boxed{}}{8}$$

3 Work out $4\frac{1}{2} - 2\frac{7}{8}$.



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

$$4\frac{\boxed{}}{8} - 2\frac{7}{8} = 3\frac{\boxed{}}{8} - 2\frac{7}{8}$$

$$= \boxed{}\frac{\boxed{}}{8}$$

$$\text{So, } 4\frac{1}{2} - 2\frac{7}{8} = \boxed{}\frac{\boxed{}}{8}$$

4 Calculate the following:

a) $5\frac{3}{11} - 1\frac{7}{11}$

c) $5\frac{4}{5} - 3\frac{13}{15}$

b) $5\frac{5}{12} - \frac{7}{12}$

d) $2\frac{7}{18} - 1\frac{2}{3}$

- 5 Circle the calculations that have an answer that is less than 2.

$4\frac{2}{5} - 2\frac{1}{5} \quad 7\frac{8}{9} - 6\frac{1}{9} \quad 5\frac{1}{8} - 3$

$2\frac{4}{5} - \frac{3}{10} \quad 4\frac{1}{9} - 2\frac{1}{3} \quad 6\frac{5}{8} - 4\frac{19}{24}$

Did you know any without working them out? How?



- 6 Three towns lie in a straight line.

The distance between town A and town B is $4\frac{1}{2}$ km.

The distance between town A and town C is $6\frac{9}{10}$ km.

How far apart could towns B and C be?

CHALLENGE



I think there might be two answers to this. I will draw a diagram to help.

Reflect

What mistake has Aki made?

$$4\frac{1}{12} - 2\frac{3}{4} = 4\frac{1}{12} - 2\frac{9}{12} = 2\frac{8}{12}$$



Subtracting fractions 4

1 By converting the mixed numbers to improper fractions first, work out:

a) $2\frac{3}{5} - 1\frac{4}{5}$

$$2\frac{3}{5} = \frac{\boxed{}}{5}$$

$$1\frac{4}{5} = \frac{\boxed{}}{5}$$

$$2\frac{3}{5} - 1\frac{4}{5} = \frac{\boxed{}}{5} - \frac{\boxed{}}{5} = \frac{\boxed{}}{5}$$



b) $3\frac{1}{6} - 1\frac{1}{2}$

$$3\frac{1}{6} = \frac{\boxed{}}{6}$$

$$1\frac{1}{2} = 1\frac{\boxed{}}{6} = \frac{\boxed{}}{6}$$

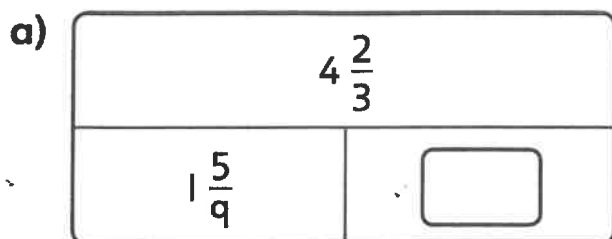
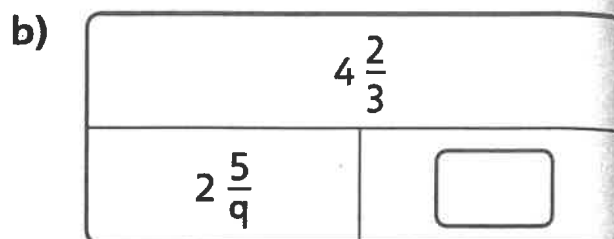
$$3\frac{1}{6} - 1\frac{1}{2} = \frac{\boxed{}}{6} - \frac{\boxed{}}{6} = \frac{\boxed{}}{6} = \boxed{} \frac{\boxed{}}{6} = \boxed{} \frac{\boxed{}}{3}$$



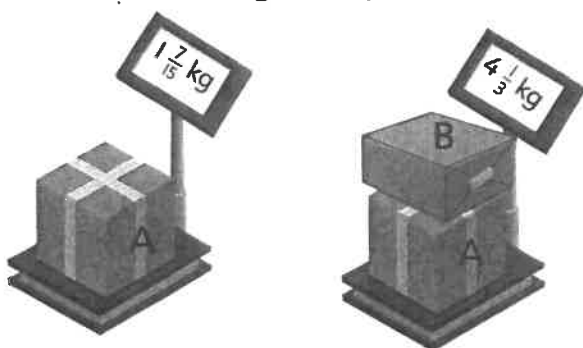
c) $4\frac{5}{9} - 1\frac{2}{3}$



2 Work out the missing values from the bar models:


3 Max is sending two parcels.




a) How much does parcel B weigh?

Parcel B weighs kg.

b) How much more does parcel B weigh than parcel A?



Parcel B weighs kg more than parcel A.

4 Calculate the following:

a) $5\frac{3}{11} - 1\frac{7}{11}$



c) $5\frac{4}{5} - 3\frac{13}{15}$



b) $5\frac{5}{12} - \frac{7}{12}$



d) $2\frac{7}{18} - 1\frac{2}{3}$



5 Work out $126\frac{11}{15} - 72\frac{3}{5}$.

Explain the method you used. Explain why you chose that method.



CHALLENGE

Reflect

Look at these two calculations. What is the same? What is different?

$4\frac{2}{3} - 2\frac{1}{6}$ and $4\frac{1}{6} - 2\frac{2}{3}$



Problem solving – mixed word problems 1

- 1 Alex is reading a book.

He reads $\frac{1}{3}$ of the book on Monday.

He reads $\frac{1}{6}$ of the book on Tuesday.

What fraction of the book has he read in total?



- 2 A rabbit eats $\frac{3}{5}$ of a bag of carrots in the morning.

In the afternoon he eats $\frac{3}{10}$ of the bag.

- a) What fraction of the bag does the rabbit eat in total?



- b) What fraction of the bag does the rabbit have left?



COMPOST $2\frac{1}{2}$ kgCOMPOST $4\frac{1}{6}$ kg

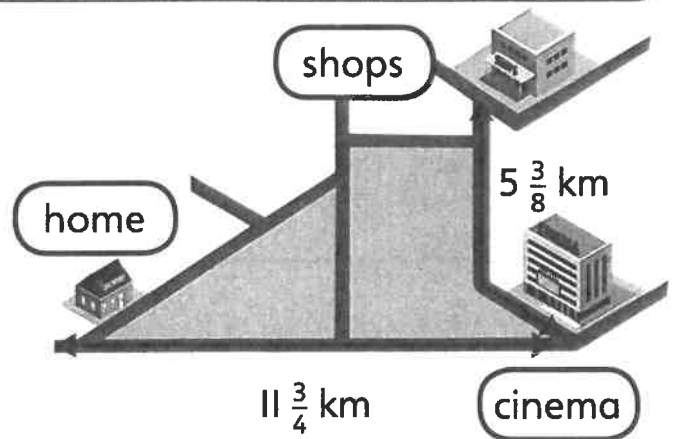
- 3 Kate uses these two bags of compost on her vegetable garden.

How much compost does Kate use in total?



- 4 Jen drives from home to the cinema. Then she drives to the shops.

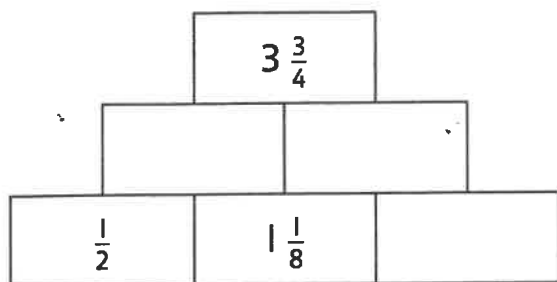
a) How far does she travel in total?



b) How much greater is the distance from home to the cinema than the distance from the cinema to the shops?



5 Complete the fraction pyramid.



Work out the number above by adding the two fractions below.

CHALLENGE



Reflect

Write a word problem for this calculation:

$$2\frac{3}{5} - 1\frac{9}{10}$$

What is the answer to your problem?

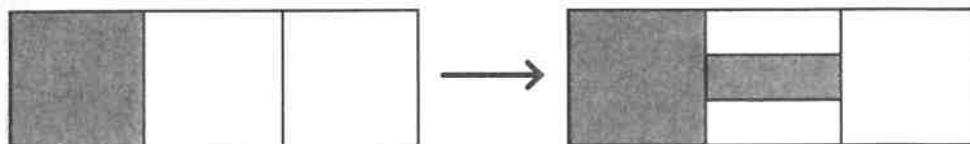


Problem solving – mixed word problems 2

- 1 Ebo spends $\frac{4}{9}$ of his pocket money on a present and $\frac{1}{3}$ of his pocket money on a comic book. What fraction of his pocket money does he have left?



- 2 Leo divides a rectangle into three equal parts and shades one of the parts. He then divides one of the parts into three more equal parts and shades one of them.



- a) What fraction of the shape is now shaded?



- b) Explain your method.

- 3 Max has a 3 kg bag of oats. He uses $\frac{1}{2}$ kg to make some porridge.

He uses $2\frac{3}{8}$ kg to make some flapjack. How many kilograms of oats are left in the bag?



- 4 Kate used $2\frac{1}{3}$ metres of ribbon to tie a present.

Another present needed $\frac{1}{9}$ of a metre more ribbon than the first.

How much ribbon did Kate use in total?



- 5 Work out the missing numbers:

a) $\frac{1}{5} + \frac{\boxed{}}{15} = \frac{7}{15}$

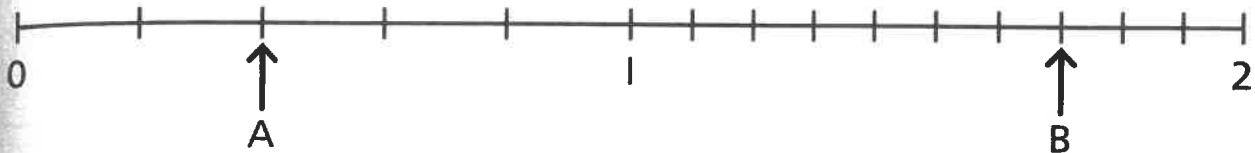
c) $\frac{1}{5} + \frac{\boxed{}}{15} = \frac{1}{3}$

b) $\frac{1}{5} + \frac{\boxed{}}{15} = \frac{4}{15}$

d) $\frac{1}{5} + \frac{\boxed{}}{15} = 1$

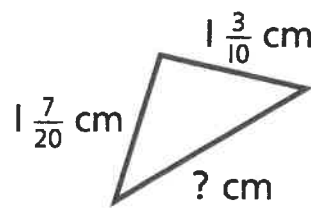
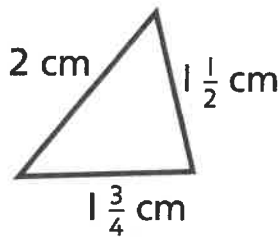


- 6 What is the difference between A and B? Show your method.



The difference between A and B is $\frac{\boxed{}}{\boxed{}}$ because

- 7 The perimeters of the two triangles are equal. What is the length of the missing side?



CHALLENGE



Reflect

Which question did you find most challenging? What did you learn from answering that question?

Home
Learning
Pack
Year 5



Practical Ideas

Classroom
secrets★



Practical Ideas

Write a book review about a book you have read recently. Classroom secrets★	Using playdough, make different shapes. Put them in water. Which will float? Which will sink? Classroom secrets★	Bake a cake with an adult. What did you do? Classroom secrets★
Encourage the use of a variety of punctuation throughout their writing. Ask children to think about persuasive language.	Encourage children to use the vocabulary to describe forces. For example water resistance, buoyancy, sink, float.	Encourage the use of time related language. For example <i>First</i>, then next. Discuss measuring and how to use weighing scales.

Practical Ideas



Design yourself as a superhero and create a comic strip of your adventures.



Classroom secrets★

Encourage children to think about what makes them unique or what superpower they would like to have.



Create a poster explaining the importance of a healthy lifestyle.



Classroom secrets★

Encourage children to think about how they keep themselves healthy and active. Discuss why that is important.

123

Estimate the area and perimeter of different rooms in your home.



How can you find out if you are correct?

Classroom secrets★

Encourage children to think about the household equipment you might use to measure a room. Is a ruler a sensible compared to a tape measure?



Visit kids.classroomsecrets.co.uk for online games to support learning.

Join our  Group: Coronavirus Home Learning Support for Teachers and Parents

Practical Ideas

Create a model of the solar system.	Drop a piece of paper to the ground. What do you notice? How can you make it fall faster?	Write a letter to someone you admire. What could you ask them?	Encourage children to think about the size of the planets and the sun. Which planet is the smallest? Which is the largest? Discuss why the paper falls the way it does. Encourage children to use the vocabulary to describe forces. For example <i>air resistance</i>, <i>gravity</i>, <i>push</i>, <i>pull</i>, <i>surface</i>. Encourage children to think about why they admire that person and what they might learn from them.
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Practical Ideas



**How many times
can you throw a
ball, clap, then
catch it in a
minute?**



**Can you beat
your record?**



Talk about how long 1 minute is.
*Did it feel a long time? Can you
count your own catches? How
many more/less catches did you
do?*



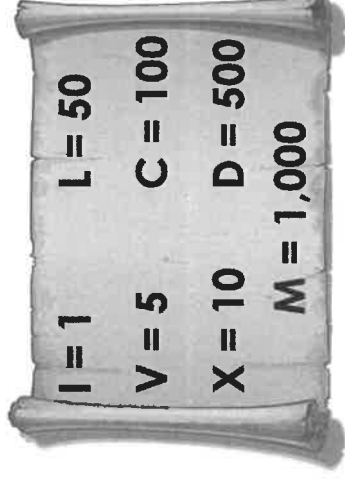
**Write instructions
to tell a friend how
to play your
favourite game.**



Encourage the use of a variety of
punctuation throughout their
writing. Discuss the differences
between instructions and other
types of writing.



**Write the birthday
of each of your
family members in
Roman Numerals.**



Discuss how Roman Numerals are
formed. Encourage them to think
about the place value of each
number.



Visit kids.classroomsecrets.co.uk for online games to support learning.

Join our  Group: Coronavirus Home Learning Support for Teachers and Parents

