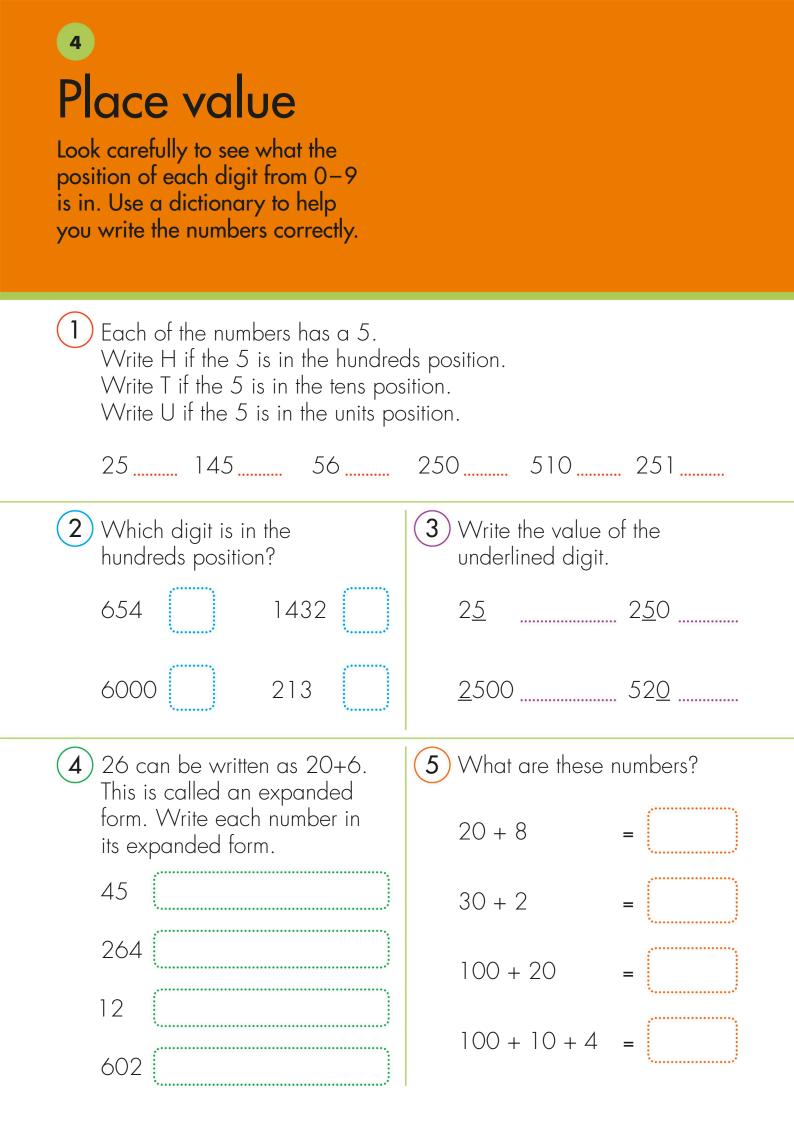




Author and Consultant Sean McArdle

The answers to all the questions and activities in this printable PDF can be found in the complete eBook, which is available for purchase from all major eBook retailers.



Can you work out what numbers are one more than 2,099 and 3,009? What numbers are one less than 4,000 and 1,050? Can you think of some tricky before and after number challenges for your friends?

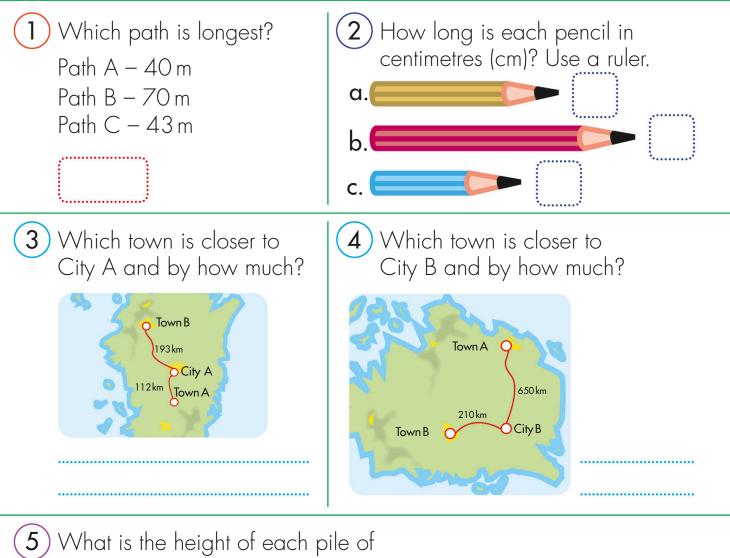
6 Mum has saved 10 five-pound notes towards a holiday. Dad has saved 48 one-pound coins. Who has saved the most and by how much?	 Write each of these numbers in its expanded form. 2,356 4,031 1,007 3,105
8 What are these numbers? 4,000+200+40 = 1,000+60+3 = 6,000+400+8 = 1,000+1 =	 9 Write the value of the underlined digit. 2,<u>6</u>04 9,04<u>5</u> 3,350 4,1<u>9</u>5
 40 is the same as 4 tens. Complete these number sentence 70 is the same as 	es. 8 tens are the same as

250 is the same as

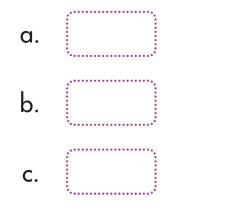
17 tens are the same as

Measuring length

These questions are all about measuring the length and height of things. Make sure you have a ruler before you start.

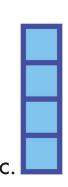


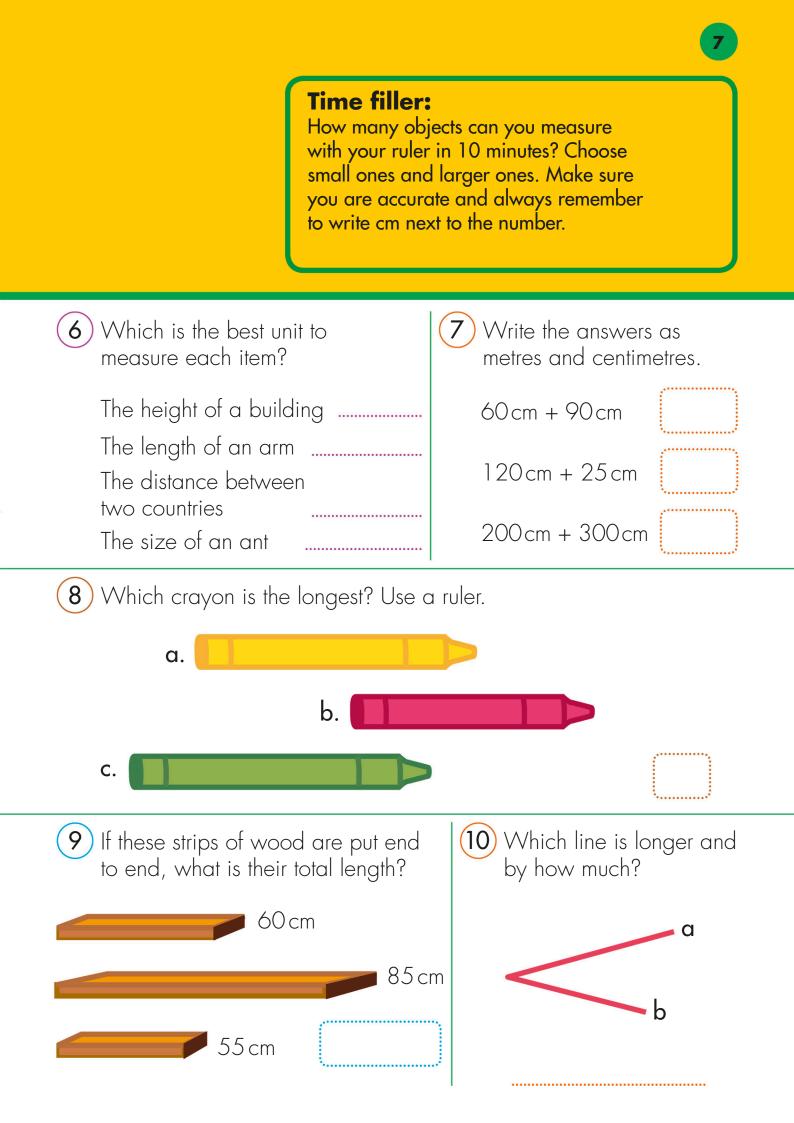
bricks in centimetres (cm)? Use a ruler.





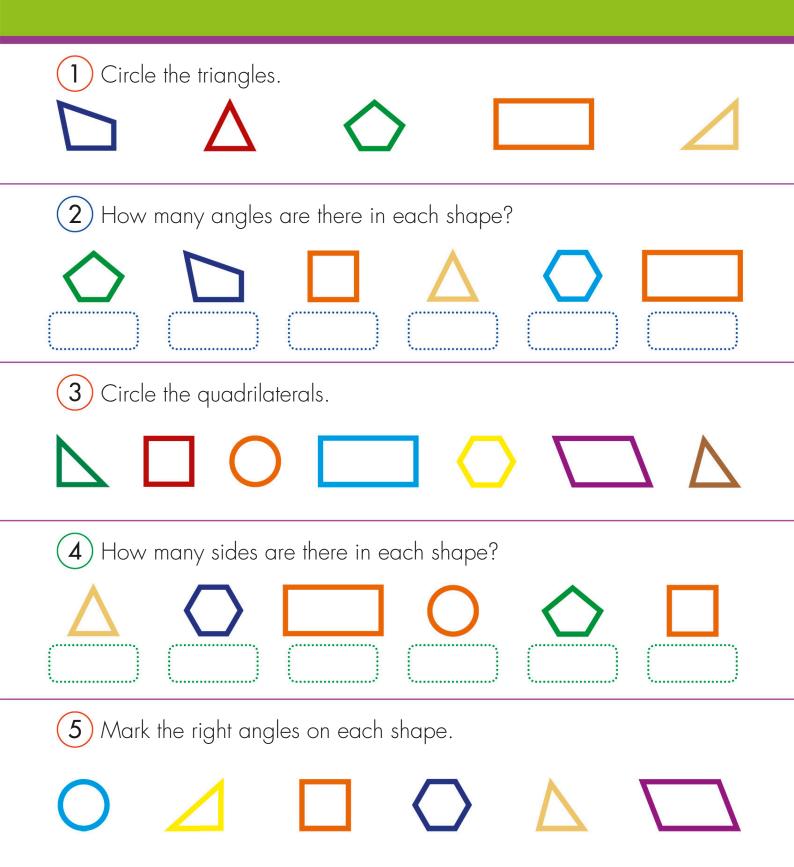








How well do you know your 2-D shapes? Give these questions a go!



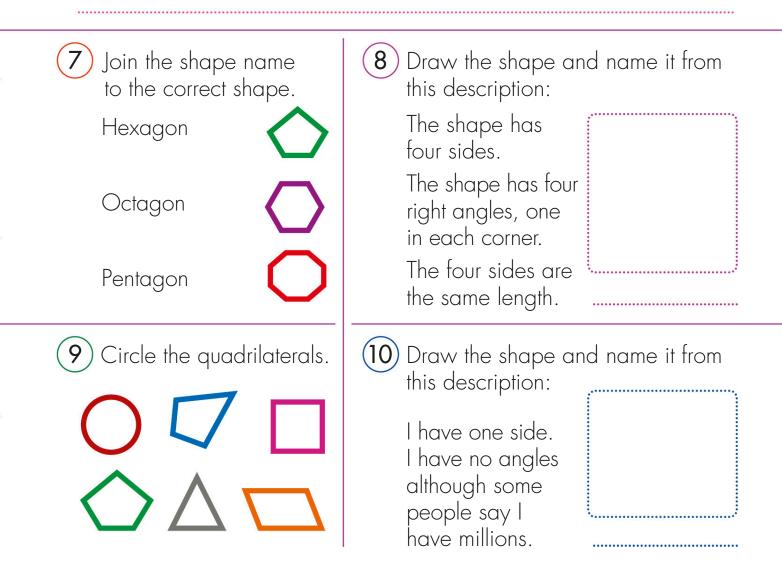


Write some descriptions of shapes just like questions 8 and 10. Can your family and friends guess which shape you are describing?

(6) Look at the shapes below and name them.

Write one thing the shapes have in common.

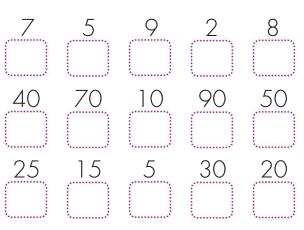
Write one thing the shapes do not have in common.



What comes next?

Your challenge is to put numbers in order and to look out for the patterns in these sequences.

Write these rows of numbers in order with the smallest first.



2 Write the next two numbers in each sequence.

2	4	6	8	
3	6	9	12	
5	15	25	35	

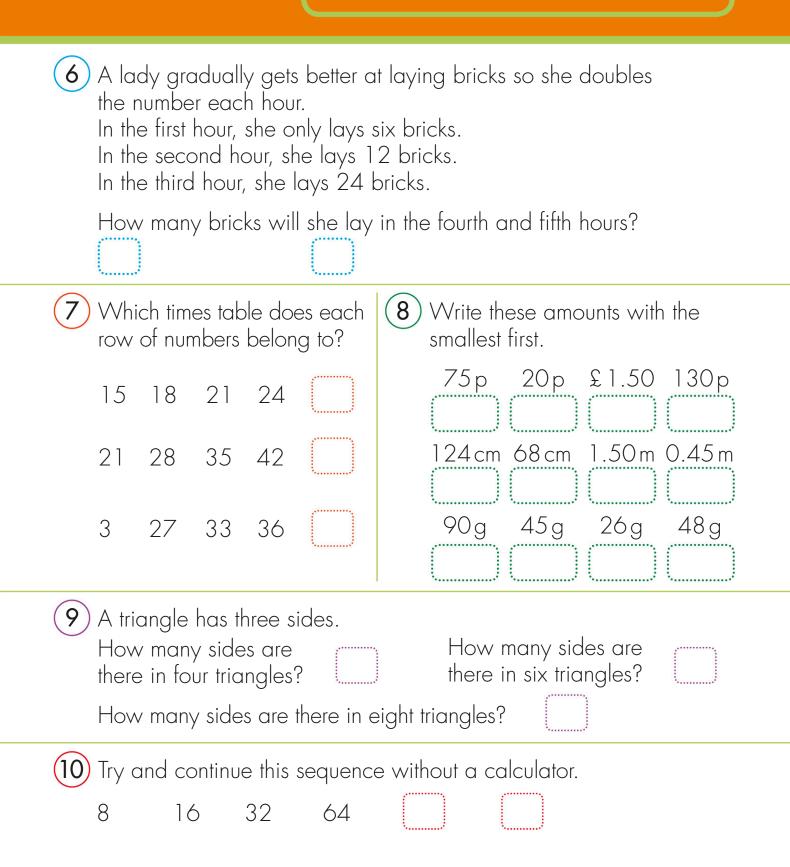
A father keeps doubling the time he does exercises.
 On Monday, he does 5 minutes.
 On Tuesday, he does 10 minutes.

On Wednesday, he does 20 minutes.

How long will he do on Thursday and Friday?

Write each row of numbers 5) Write the next two numbers 4) in order with the smallest first. in each sequence. 26 34 18 20 18 16 14 53 35 5 3 60 50 40 30 21 18 15 12

Can you write your own sequence with the rule of adding 4 each time? Try spotting the rule in this number sequence: 160, 80, 40, 20, 10, 5. Write some other number sequences to challenge your family.



Using timetables

You do not want to be late for a bus or miss a film, so have a go at reading these timetables.

> Look at this table and then answer the questions. This is part of a bus timetable.

Greenstar Bus Service – weekdays (a.m.)					
Winchester	9.05	9.25	9.45	10.05	10.25
St. Cross	9.13	9.33	9.53	10.13	10.33
Otterbourne	9.23	9.43	10.03	10.23	10.43
Chandlers Ford	9.28	9.48	10.08	10.28	10.48
Southampton	9.43	10.03	10.23	10.43	11.03

1) What time does the 9.05 from Winchester arrive at Southampton?

How long

does the



2) Which two consecutive (following) places are closest by travel time?

Which two consecutive (following) places are farthest apart by travel time?

How long is the journey between Winchester 3) and Otterbourne?

How long is the journey between St. Cross and Chandlers Ford?

4) If I wanted to travel from Winchester to Southampton and arrive in Southampton just before 11.00, which would be the best bus to catch from Winchester?

5) How long is the gap between buses at Otterbourne?

Write your own timetable starting from the moment you wake up on a school day to arriving at school. Put in the approximate time taken for each activity.

This chart shows starting times for films at the cinema.

Films	Start times (p.m. unless shown)			
Class Wars	1.05	3.20	5.45	8.00
Queen Kong	1.15	3.50	6.00	8.45
Penguins of the Caribbean	11.00 a.m.	1.15	3.15	5.00
Harry Putter and the Golf Club Mystery	1.30	4.00	6.30	9.00

6 Only one film begins in the morning. Which one?

7 Which film begins at 3.50?

Which film begins at 6.30?

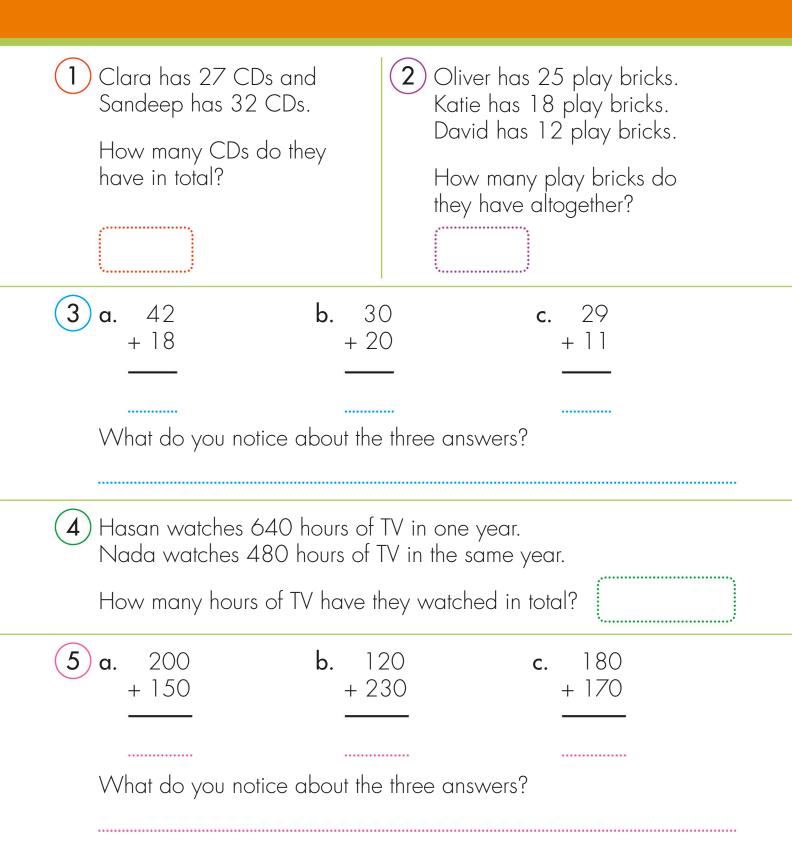
8) If Eli just misses the start of Queen Kong at 3.50, how long will he have to wait for the start of the next showing?

9) Which two films have their last showing after 8.30?



Adding challenge

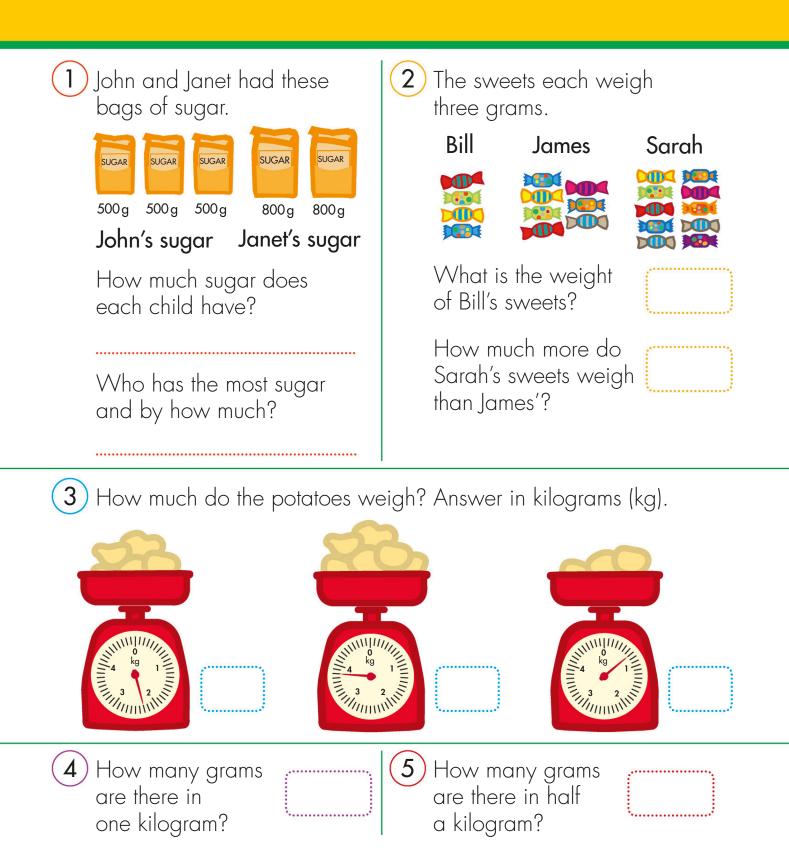
How quickly and accurately can you answer these addition questions? Get set, go!



		15
	Time filler: How many 3-digit number from the digits 1, 2, and of these numbers together with the digits 1, 3, and 4	3? Now add three : Try doing the same
	er of his model cars; he h ing and finds she has 15	
How many cars does i	Mary have?	
(7) a. 67 + 44	b. 49 + 73	c. 83 + 29
8 Angela is taking a long On Day 1, Angela's tro On Day 2, Angela's tro On Day 3, Angela's tro How far has Angela tro	ain travels 176km. ain travels 156km.	ee days?
9 a. 217 + 97	b. 489 + 285	c. 505 + 418
10 Emmie has 670 songs Darius has 165 more s How many songs does	songs on his mp3 player	ſ.

Measuring weight

Are you ready for some weight measuring problems to solve? Get steady! Go!



Find some open packets of food and weigh them on some weighing scales. How much has been used up? Always remember to write g (grams) or kg (kilograms) next to your answers.

6 A class of nine-year-olds measured their weights. The average weight of the boys was 28.2 kg and the average weight of the girls was 26 kg. Which group has an average lower weight and by how much?

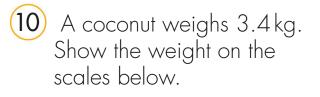
- 7 A small box of Flakey Flakes weighs 350g and a large box of Beetywix weighs 800g.
 - **a**. How much heavier is the Beetywix than the Flakey Flakes?
 - **b**. How much would four boxes of Flakey Flakes weigh?
 - **c.** Would two boxes of Flakey Flakes weigh more or less than one box of Beetywix?
- 8 Which weighs more? 90g 90g

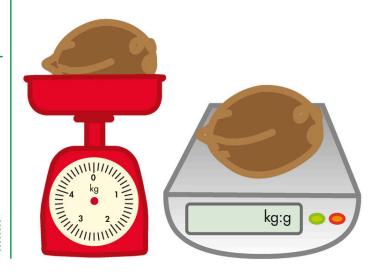
Flour

Feathers

Don't be tricked by this question!

- 9 A full box of soap powder weighs 700 g.
 - Half of the powder has been used. How much does the box weigh now?





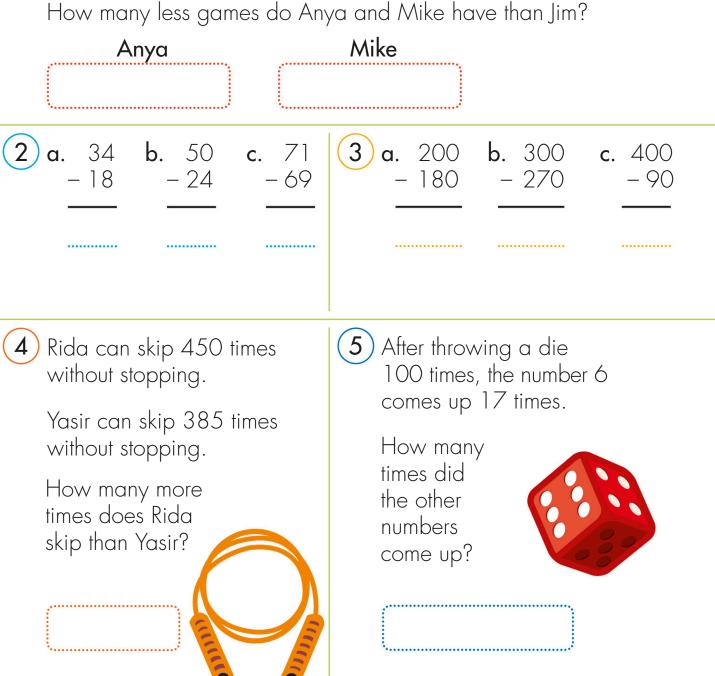




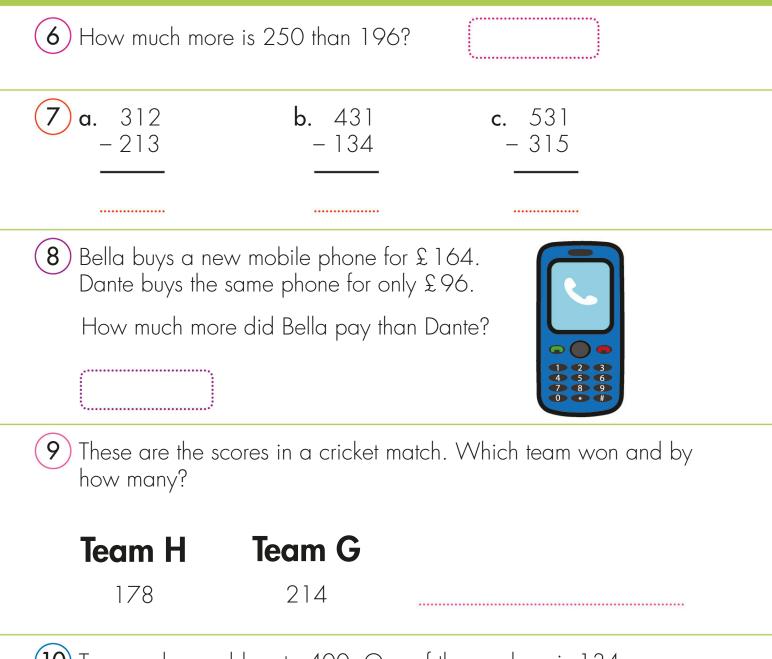
Subtraction

Here are some number problems that all involve subtracting. Remember you can use addition to check your answers are correct. Good luck!





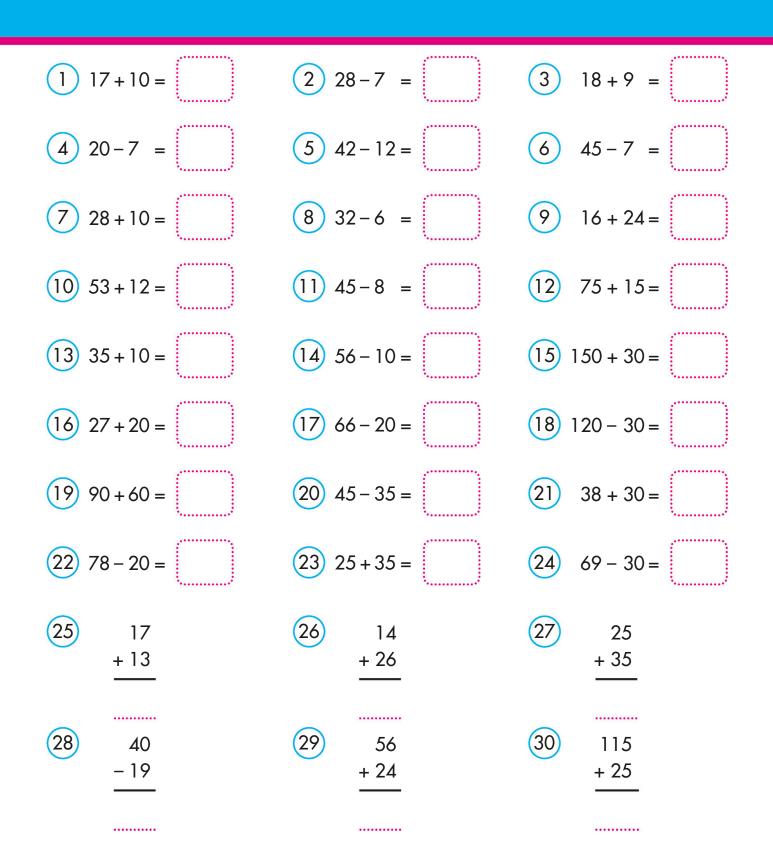
Make two numbers from the digits 6, 1, and 5. Then subtract the larger number from the smaller number. Now do the same using the digits 2, 7, and 3. Now change around your numbers. In this way, you can make up your own subtraction questions.



(10) Two numbers add up to 400. One of the numbers is 134. What is the other number?

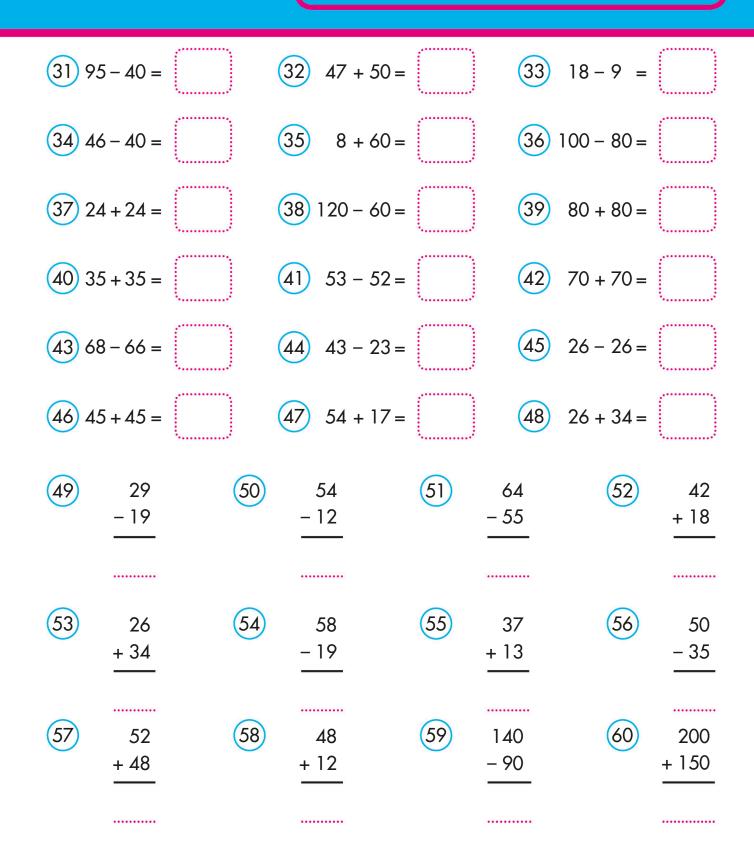
Beat the clock 1

Test your mental adding and subtracting skills. How many can you do in 10 minutes?



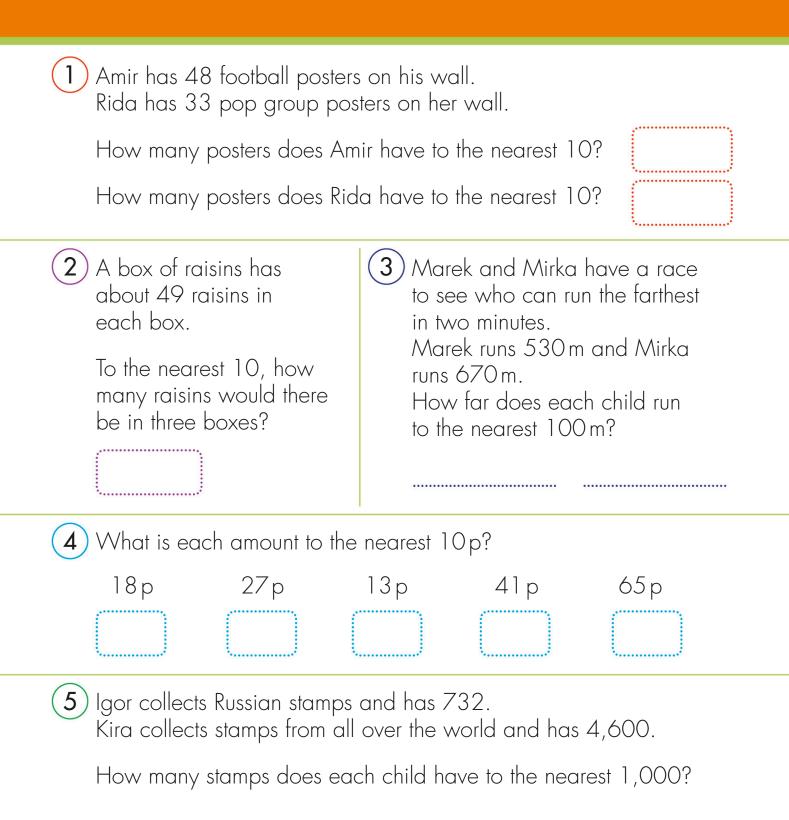
Can you spot the wrong answers in these number sentences? 46 + 27 = 73 38 - 19 = 2960 - 26 = 44 31 + 29 = 70

Write some sums for your friends to have a go. Can they find the wrong ones?



Rounding numbers

Rounding numbers to the nearest 10, 100, or 1,000 is a useful skill for estimating answers. Have a go!



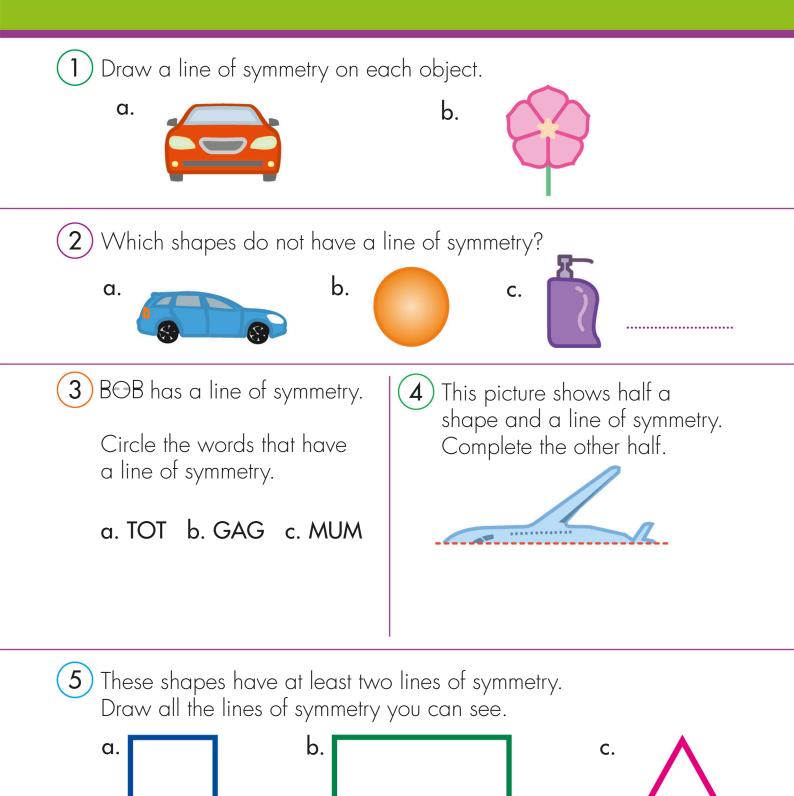
Round each of these amounts to the nearest 10p: £1.75, 84p, 351p, and £2.05. When you next go shopping, try rounding the amount you have to pay to the nearest 10p.

6 What is each length to the nearest 100 cm?
82cm 144cm 370cm 250cm 190cm
Most floor boards are about 228 cm long. About how long would three boards placed end to end be to the nearest 10 cm?
8 What is each number to the nearest 1,000?
625 4,005 5,612 2,400 7,500
9 If Umi has 78 CDs and Tisa has twice as many, estimate to the nearest 10 how many CDs Tisa has.
10 Diego can swim 6,500 m without stopping. Juanita can swim 4,800 m without stopping.
How far can each swim to the nearest 1,000 m?



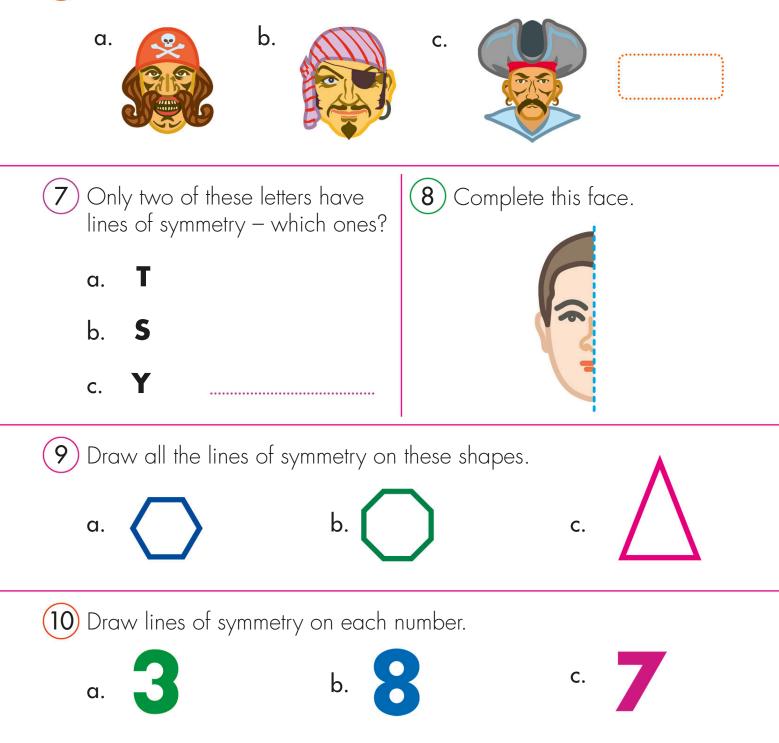
Lines of symmetry

Is your face symmetrical or does your hairstyle and other features look different on either side of your nose?



Design your own symmetrical pirate face. Try out a clown face and an animal's face too, such as a lion or a monkey.

6 Which pirate's face does not have a line of symmetry?

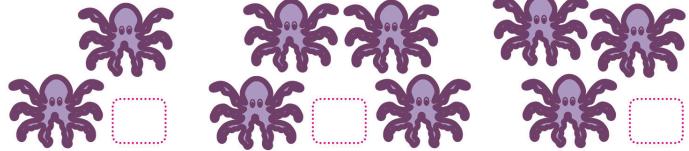


26 Multiplication tables

Brush up on your times tables with these questions. Keep them sharp!

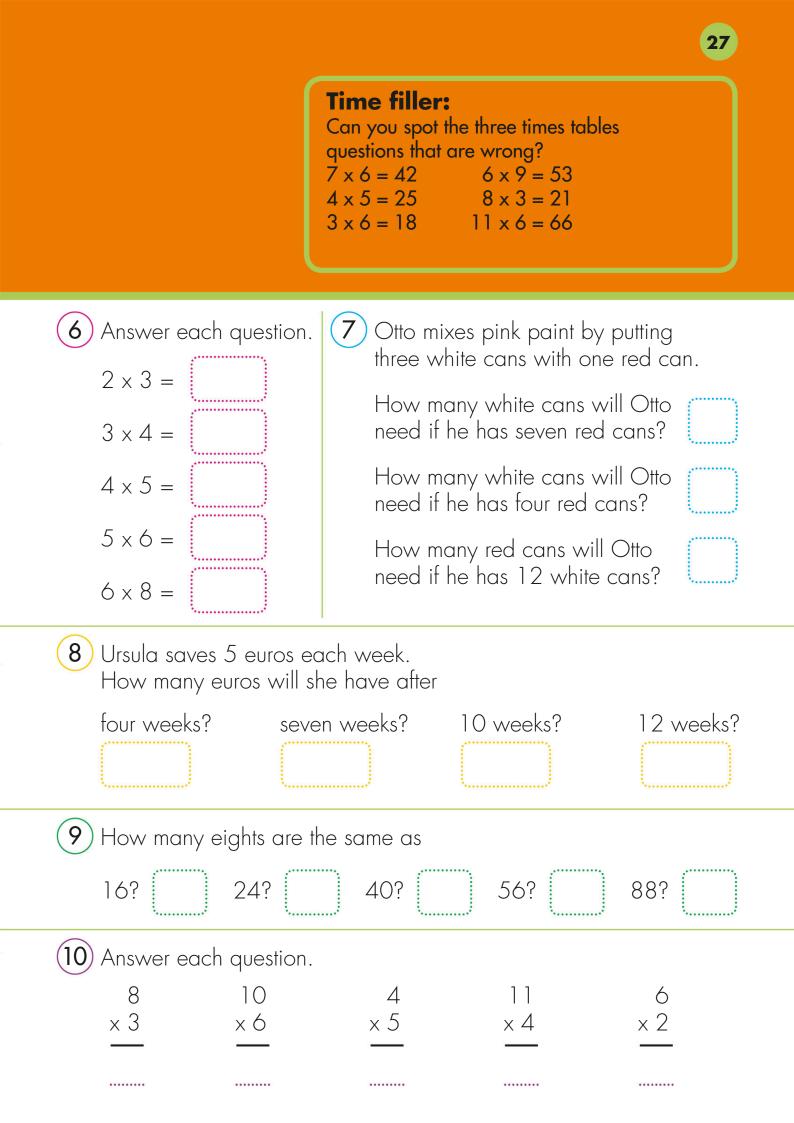
Carlo collects 5 p coins and after one month has 12.
 Bella also collects 5 p coins and after a month has eight.
 How much money does each child have and who has the most?

2 An octopus has eight legs. How many legs does each group have?



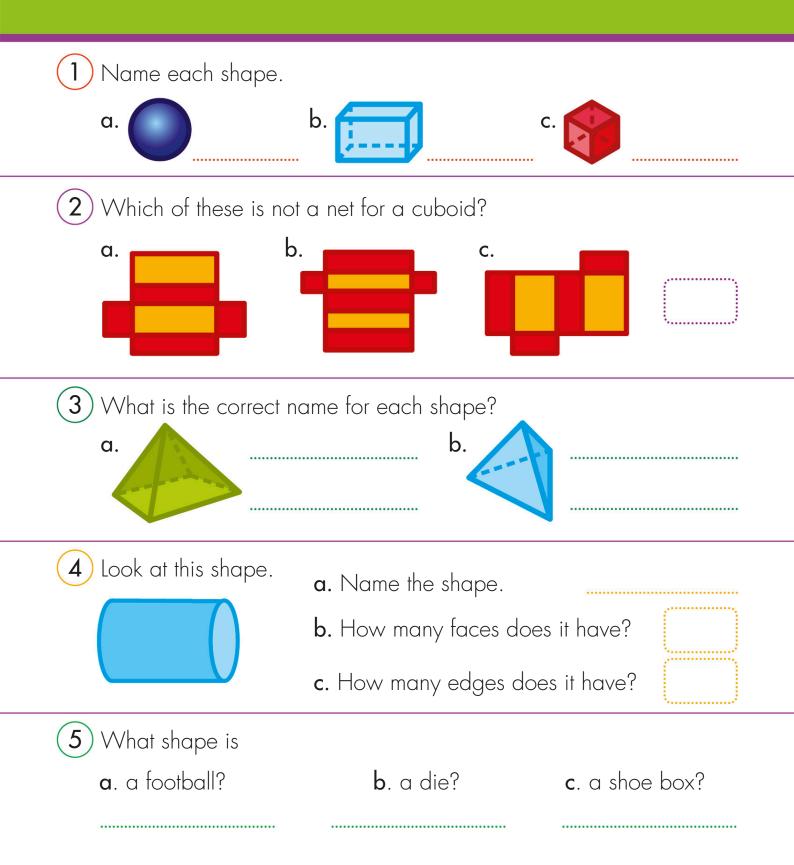
3 Darius has two maths lessons each day. How many maths lessons will he have in

Which child has the most comics and by how many?

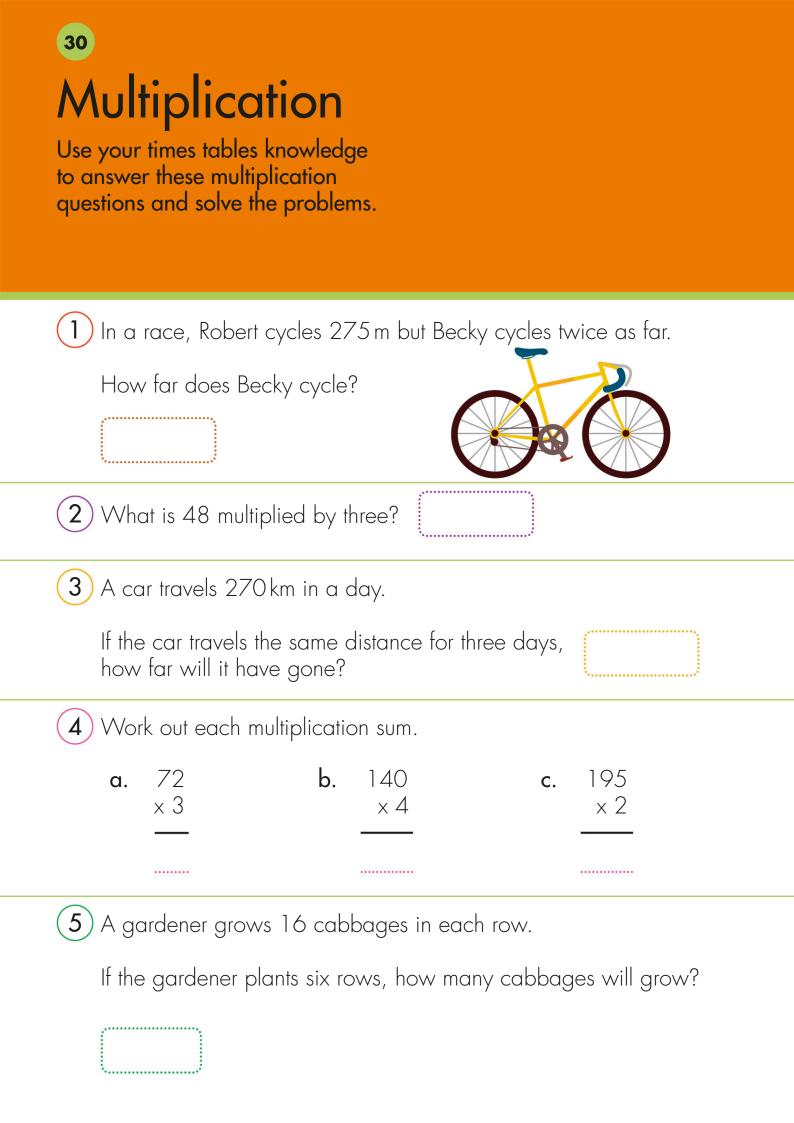




How well do you know your 3-D shapes? Have a go at these challenges.



Time filler: Think of a 3-D shape. How many faces, edges, and vertices (corners) does it have? Can you write three sentences about your shape so that your friends can guess its name? 6) Which of these is not a net for a square-based pyramid? b. a. 7) Look at this shape. **a.** Name the shape. **b**. How many faces does it have? c. How many edges does it have? 8) Complete each sentence. a. All the faces of a cube are **b.** A sphere has curved face(s) and no edges. How many vertices (corners) does each shape have? 9) b. С. a. (10) Draw a net for a cube. How many faces does it have?



Think of a 3-digit number below 500. What is the number twice as big? What is the number three times as big? Think of another number and try doing the same.

6 Work out each mul	Itiplication sum.			
a. 50 × 4	b. 75 × 3	c. 150 × 4		
<u> </u>	<u> </u>	<u> </u>		
7 Wendy saves 45 p	in each week for six	weeks.		
How much will We	endy have saved after	r six weeks?		
8 Shen has downloaded 53 tracks to his mp3 player. Zan has downloaded three times as many.				
How many tracks h	nas Zan downloaded'	?		
9 Work out each mul	ltiplication sum.			
a. 20 × 4	b . 40 × 5	c. 60		
× 4	x J	<u> </u>		
10 How much more is nine times ten than nine times nine?				

32 Charts and tables

Pictograms are very useful in presenting information so that it can be easily used. How quickly can you find the answers?

1) A child kept a record of the birds she saw in her garden in one week.

Look at this chart and then answer the questions.

Owls	
Robins	
Sparrows	
Starlings	
Swallow	

a. Which bird did she see the most and how many?
b. How many more sparrows did she see than robins?
c. How many birds did she see altogether?
d. Which birds did she see twice?



ig(2ig) Four children were asked to complete this table about their favourite activities

Look carefully at this table and then answer the questions.

Name	Music	Sport	Lesson
Katie	Рор	Jogging	English
David	Jazz	Hockey	Maths
Clara	Disco	Gymnastics	Maths
Oliver	Рор	Trampoline	PE

- a. Who said hockey was their favourite sport?
- **b.** Who had disco as their favourite music?
- c. Did any of the children enjoy French lessons?
- **d**. How many different types of music are on the table?



e. Did Clara and Oliver share any favourites?

Complete the same table for a few of your family or friends. 3)

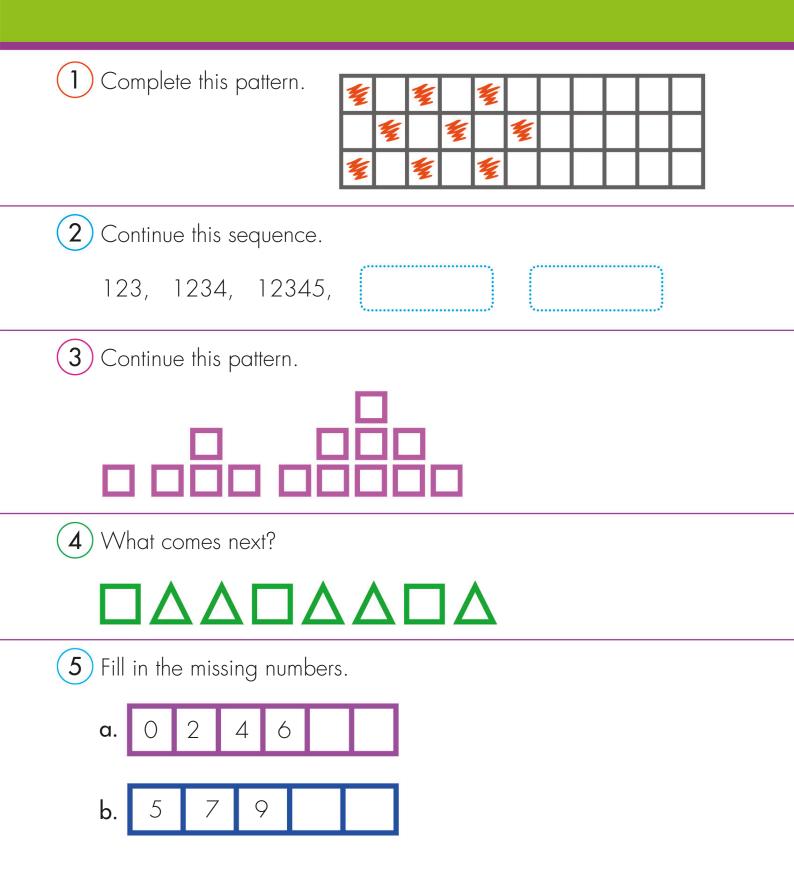
Name	Music	Sport	Lesson

Write three of your own questions about your table.

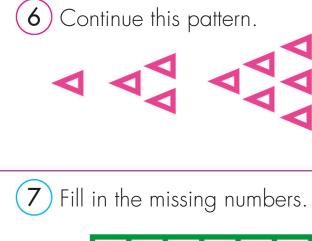
Q. С.

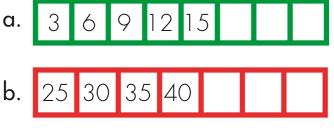


What comes next in these shape and number patterns? Look carefully and remain alert.



Describe what is happening to each of these sequences: 3, 9, 27, 81 400, 200, 100, 50 Can you write a sequence with the rule of multiplying by 2 each time, starting with 4?





8 What comes next?

1,3

9 Fill in the missing numbers.

2,6

3,9

(10) What comes next?

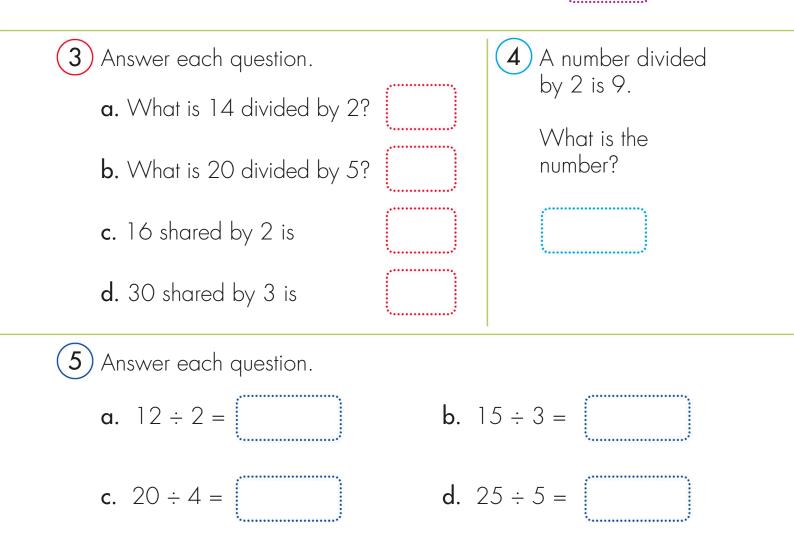
Here is a chance to use your times tables knowledge again. This time it is to solve some division problems. Good luck!

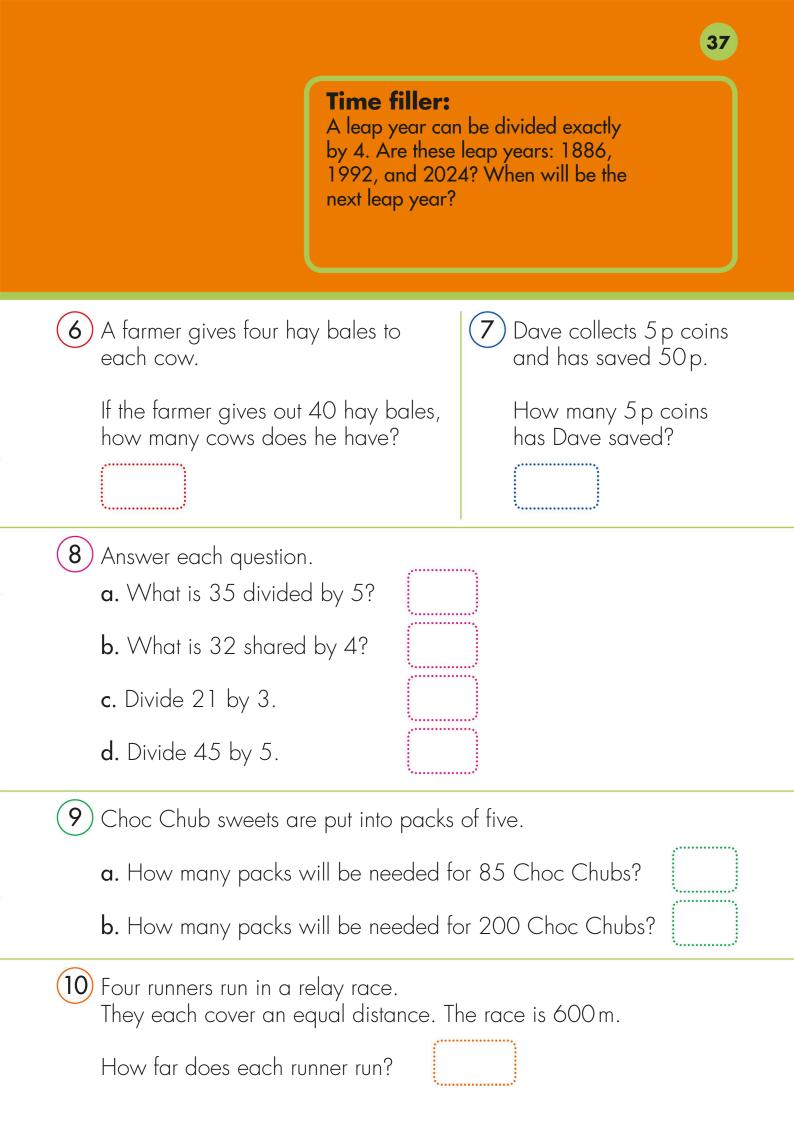
1) A pizza is cut into eight slices. Four children share the pizza.

How many pieces does each child receive?

(2) 30 bananas are shared equally between five monkeys.

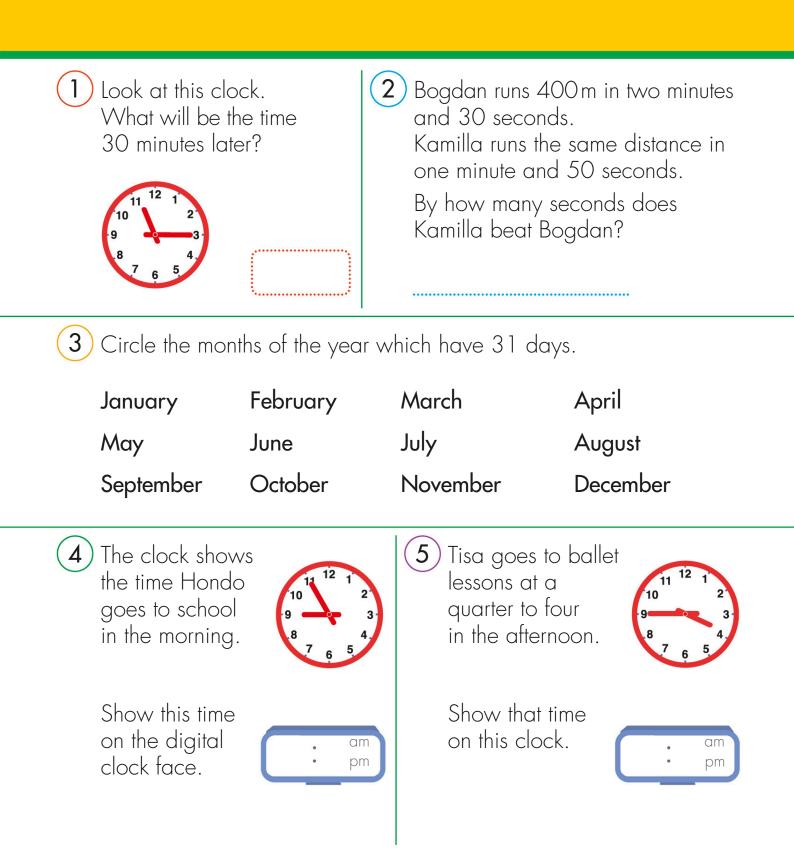
How many bananas will each monkey receive?



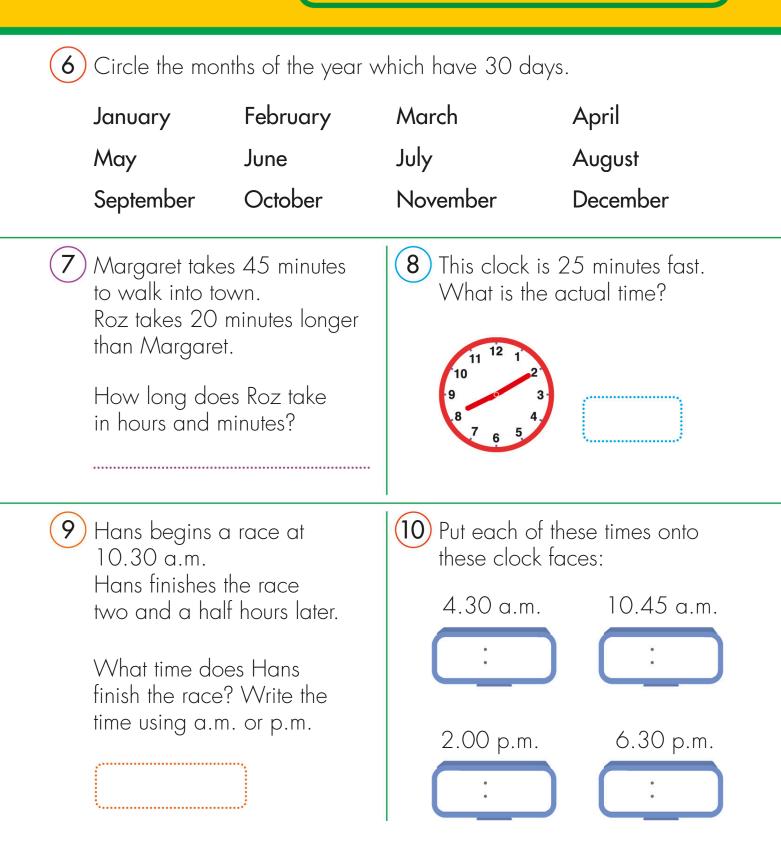


Telling the time

It is time to try some questions all about time. How much time will they take you?



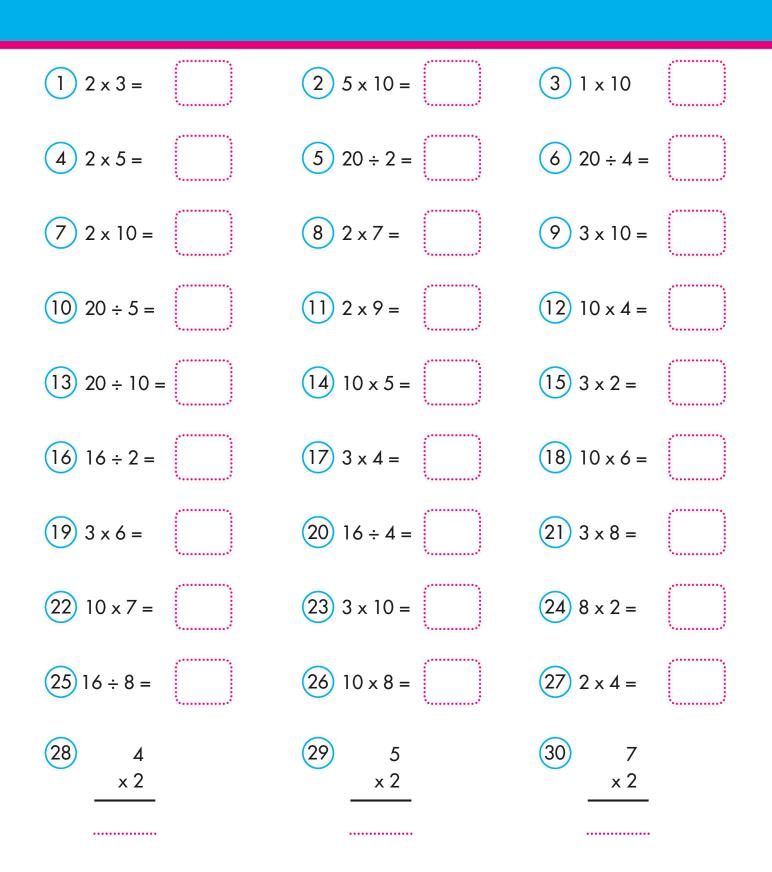
Can you estimate one minute? Close your eyes and start. When you think a minute is up, open your eyes. How close were you? Try estimating 2 minutes and 5 minutes. Is it a longer or shorter period of time than you thought?



40

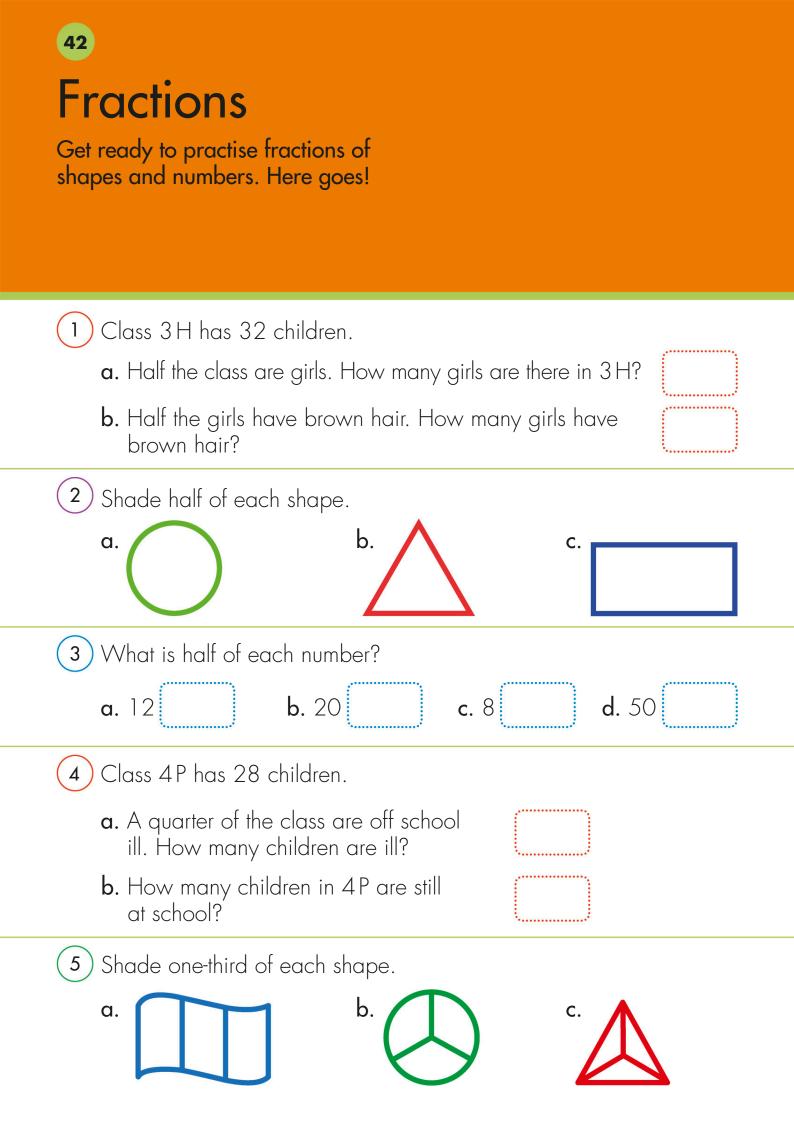
Beat the clock 2

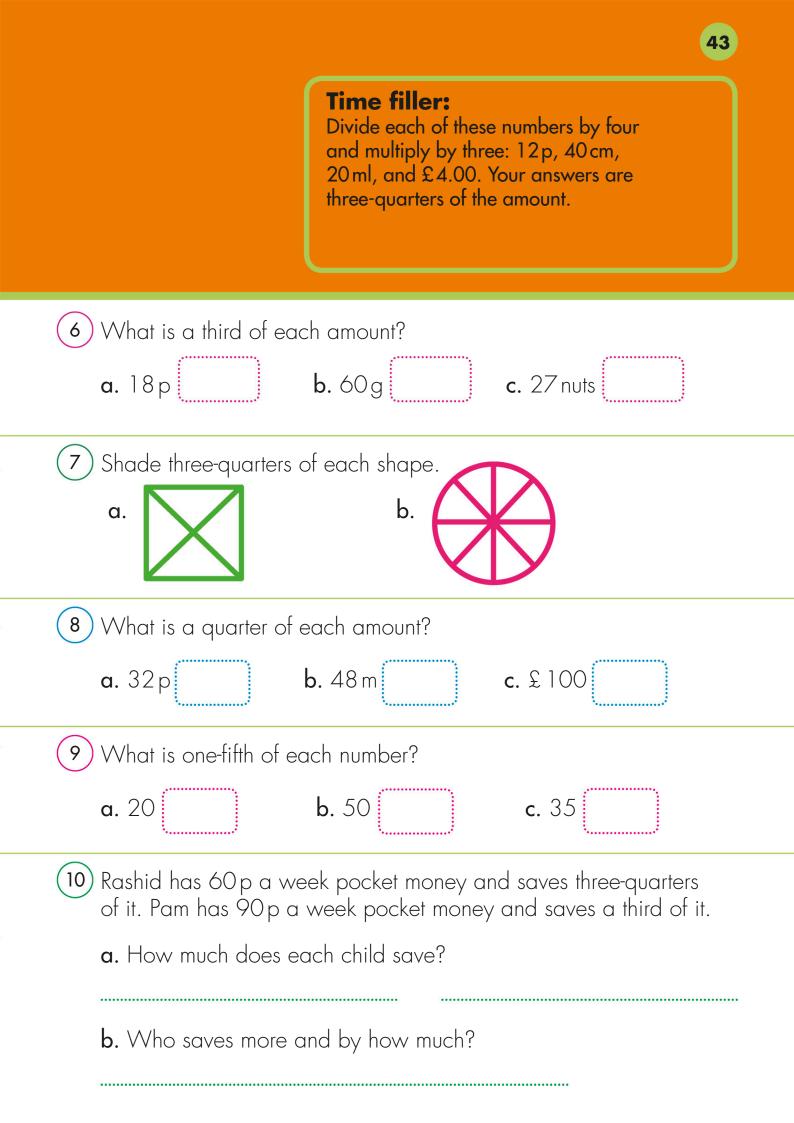
Test your times tables knowledge. How many sums can you do in 10 minutes?



Multiply 3 by 8, now add 1, now divide by 5, multiply by 6, and divide by 3. What number do you have? Try writing your own questions using multiply, divide, add, and subtract.

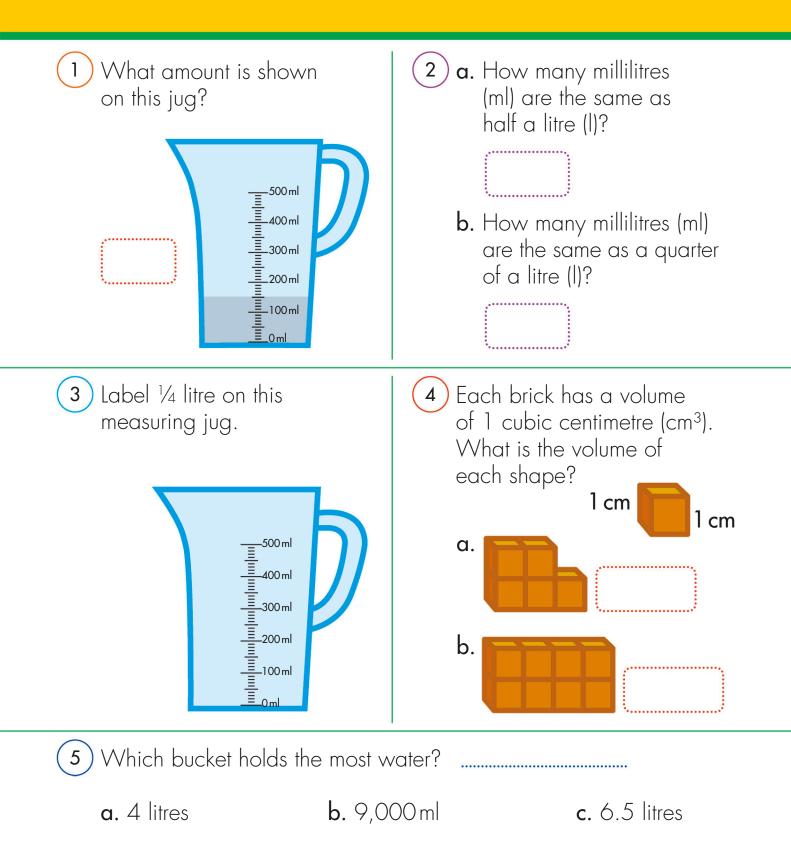
31) 10 x 9 =	32 4 x 4 =	33 12 ÷ 2 =
34) 12 ÷ 3 =	35 10 x 10 =	36 4 x 5 =
37) 12 ÷ 4 =	38) 12 ÷ 6 =	39 4 x 6 =
40 14 ÷ 2 =	41 4 x 8 =	(42) 15 ÷ 3 =
(43) 24 ÷ 3 =	(44) 4 x 10 =	45 15 ÷ 5 =
46 5 x 3 =	(47) 20 ÷ 2 =	48 5 × 5 =
49 20 ÷ 4 =	50 20 ÷ 5 =	51) 20 ÷ 10 =
52 5 x 7 =	53 25 ÷ 5 =	54) 5 x 8 =
55 9 x 2	56 3 x 5	57 6 x 3
58 8 	59 6 <u>× 4</u>	60 8)40 =

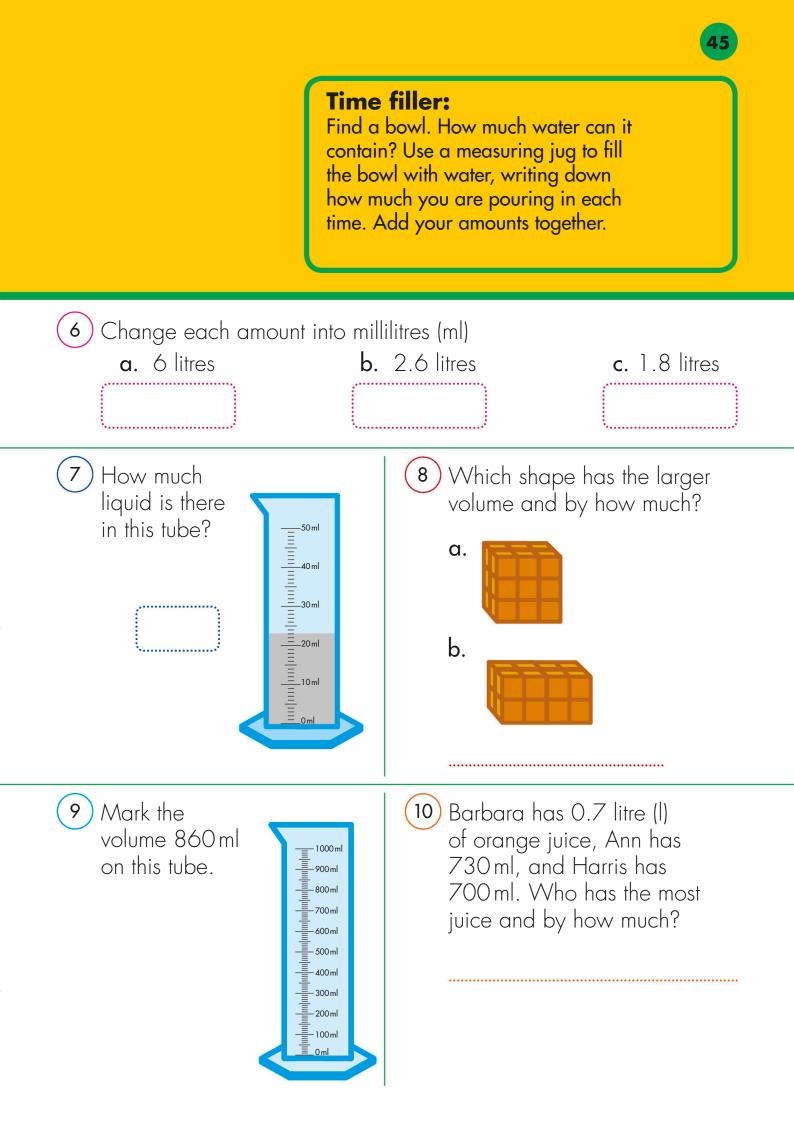






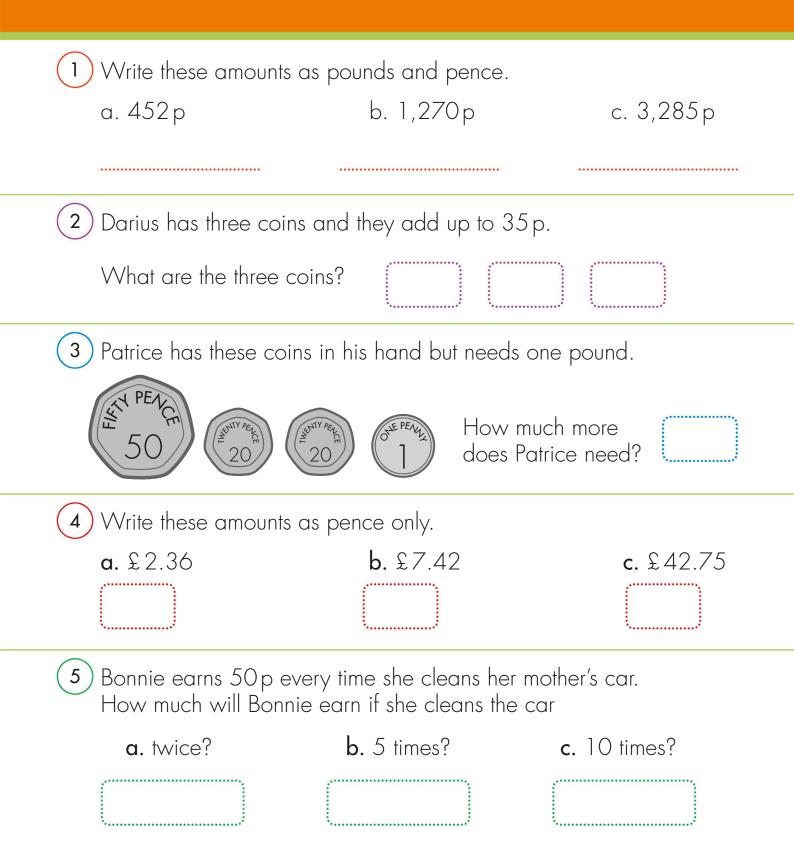
Practise calculating volumes of solids and liquids. Remember there are 1,000 millilitres in 1 litre.



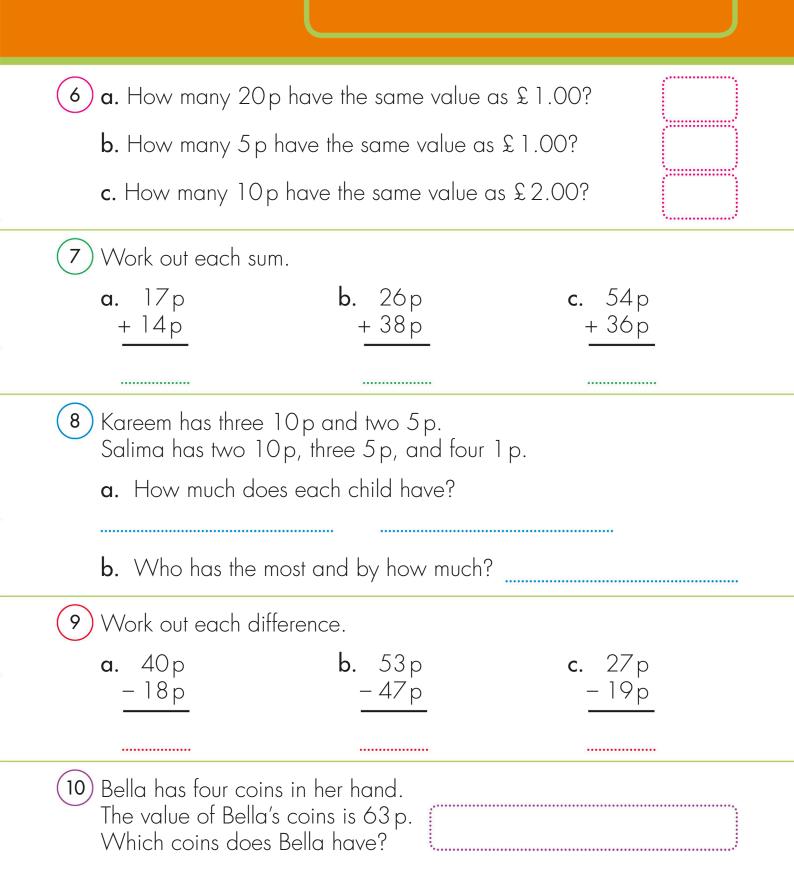


Money challenge

How quickly can you solve these questions all about money?

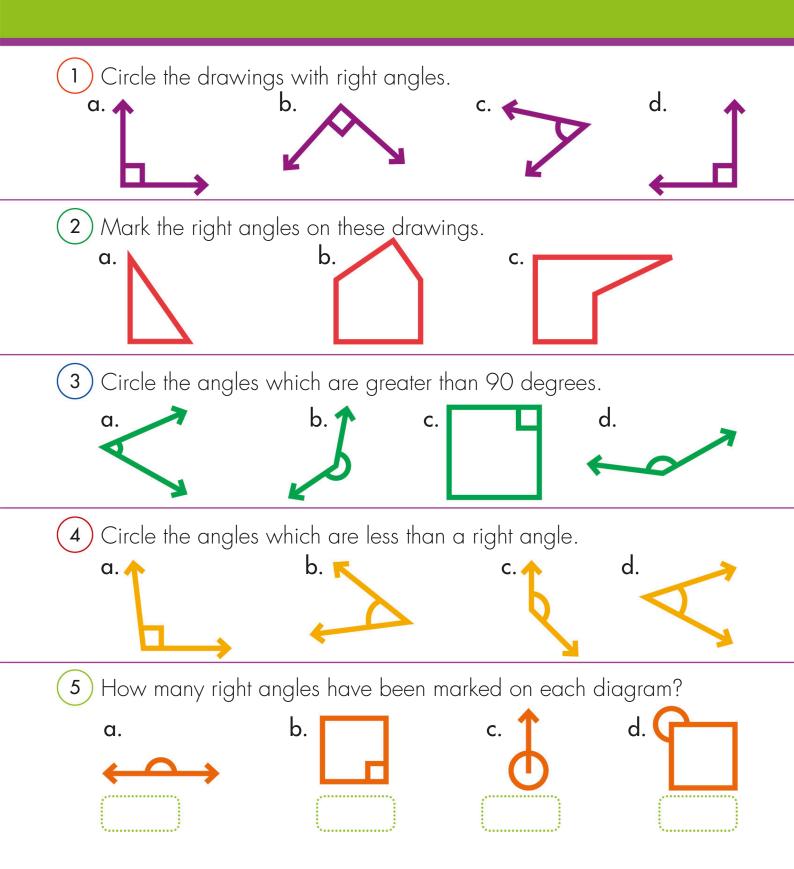


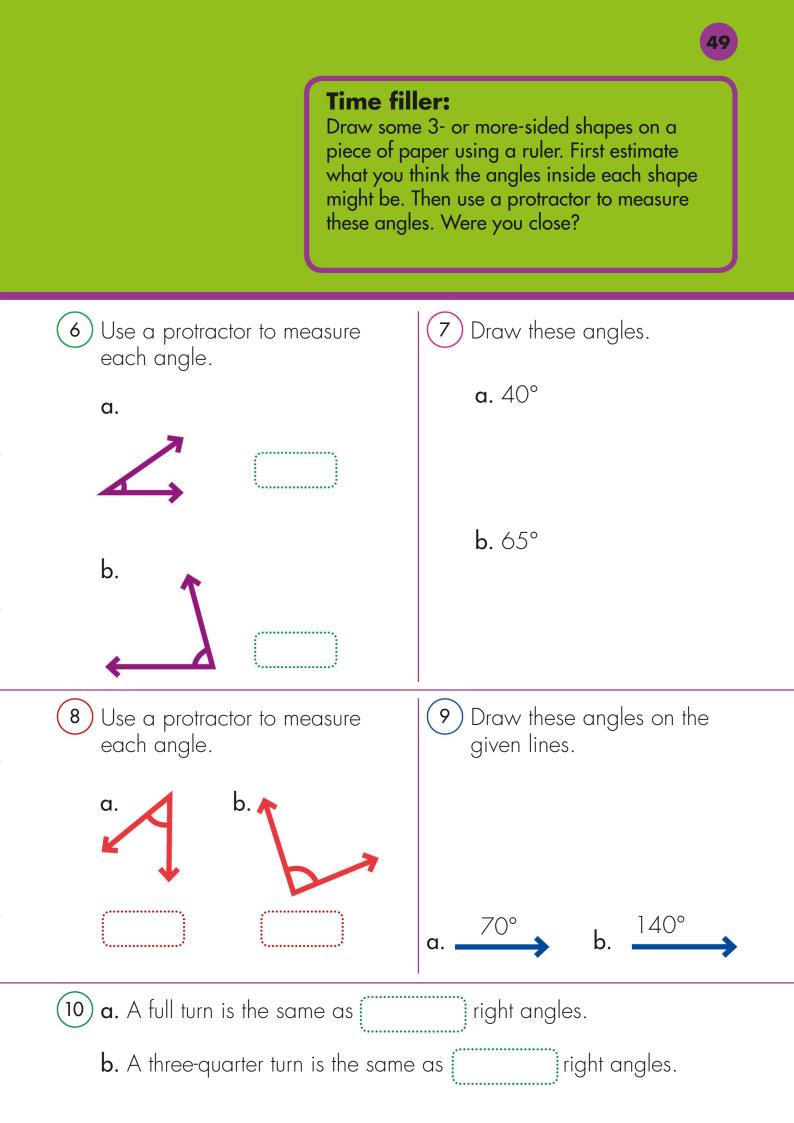
Ask an adult for a 50p, a 20p, a 10p, a 5p, a 2p, and a 1p coin. How much do you have? How much more do you need to make £1.00? Ask for two more coins. Do you have enough now?

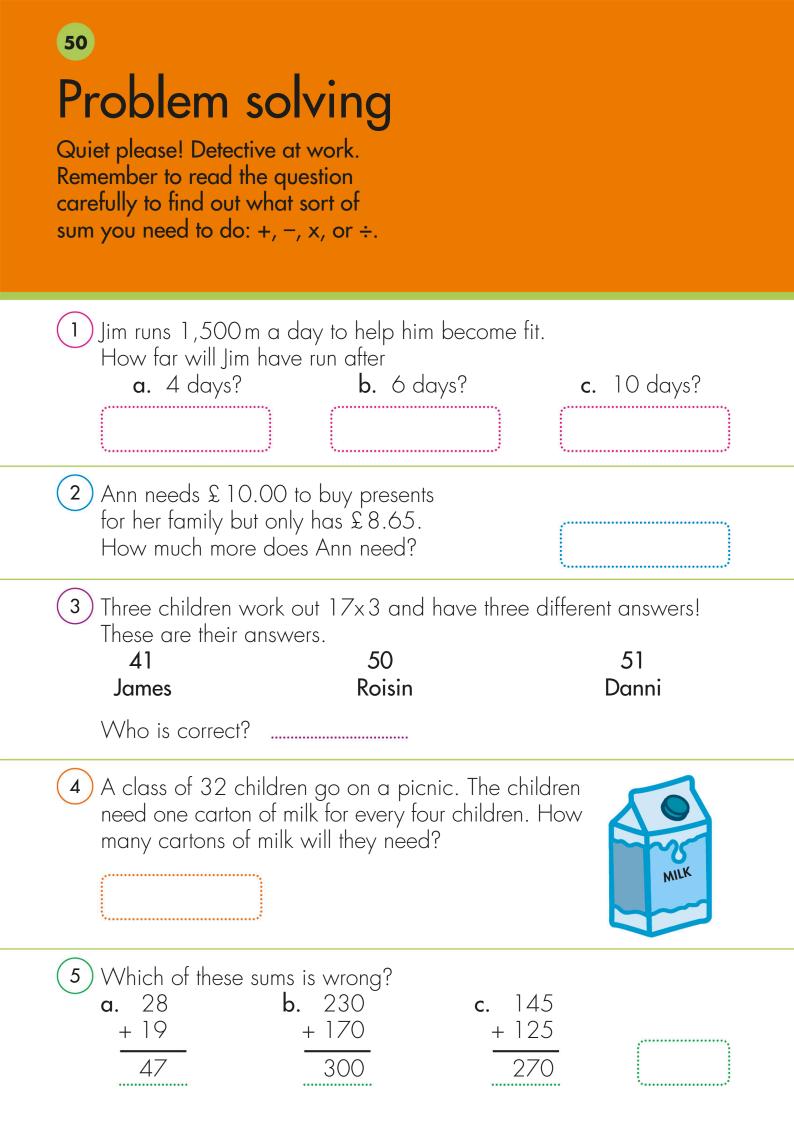


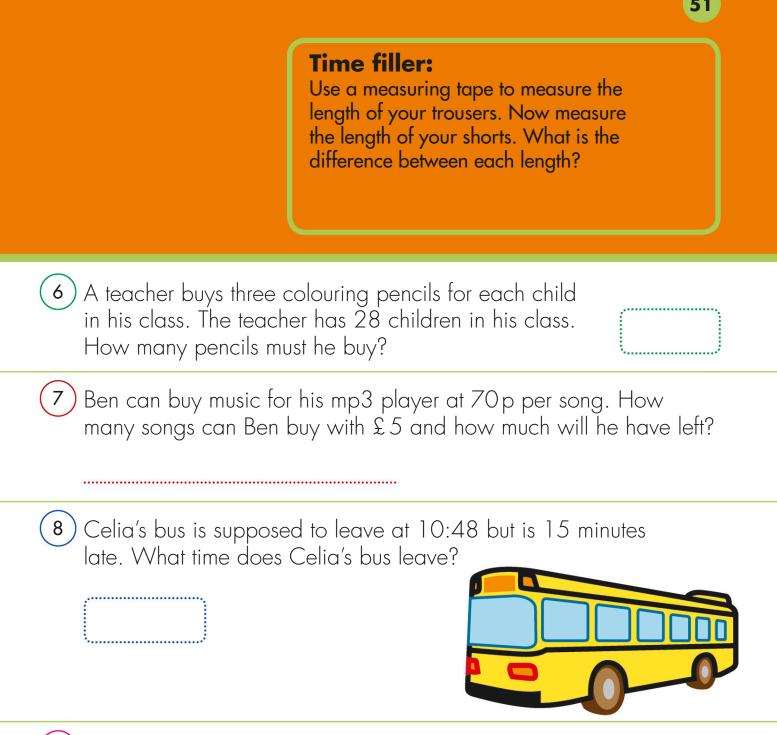


These questions are all about finding and measuring angles. Make sure you have a protractor before you start.









) Jake fills in a times-table chart but puts two wrong answers. Circle the wrong answers.

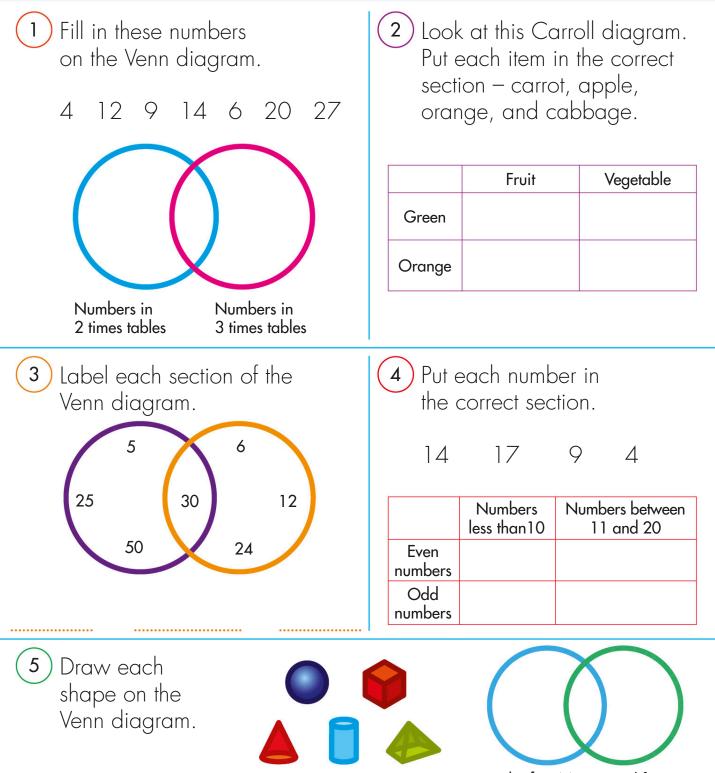
	2	3	4	5	8	10
x5	10	15	20	35	40	50
×8	16	22	32	40	64	80

10 Jonah wants to be as tall as his father. Jonah is 1.39 m tall. His father is 1.88 m tall.

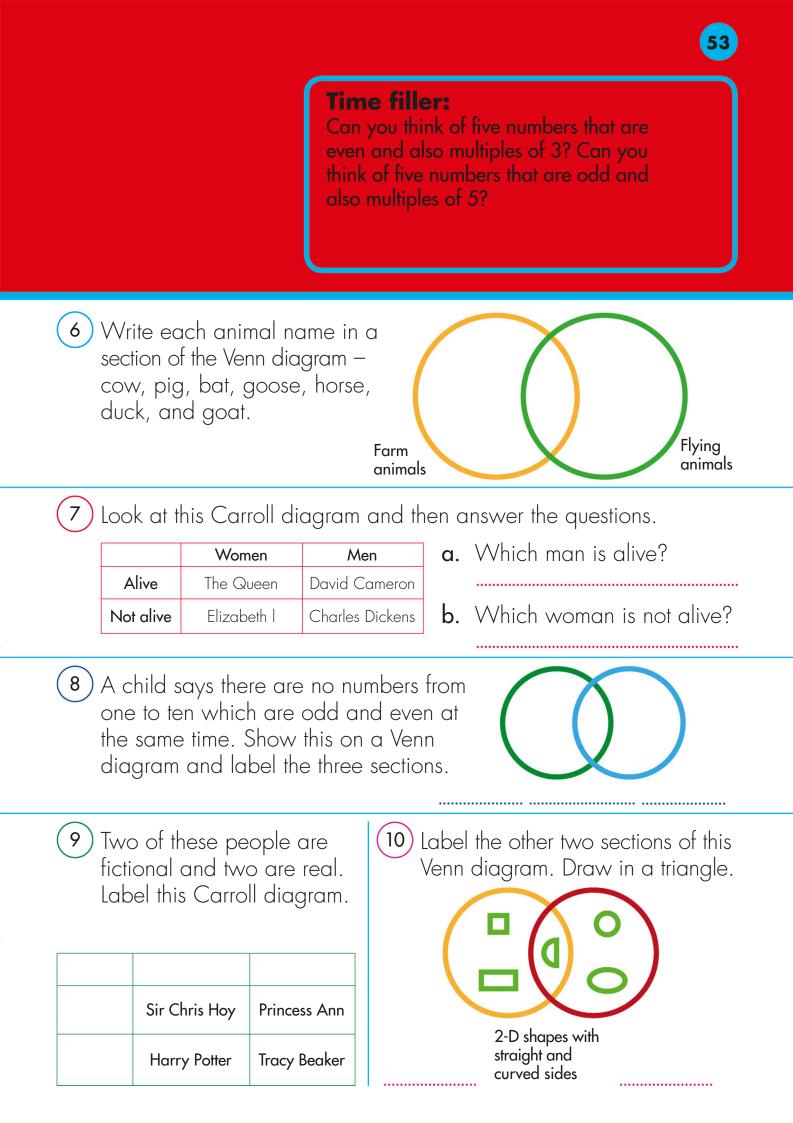
How much taller does Jonah need to grow?

Diagrams

Venn diagrams and Carroll diagrams are useful ways of quickly showing comparisons between information.



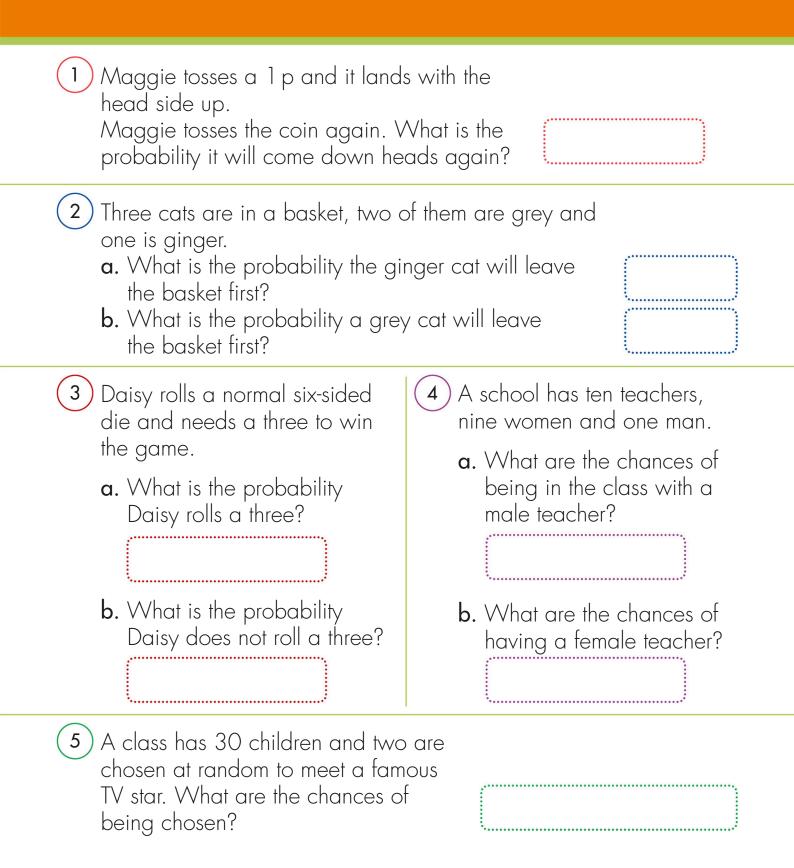
Flat face(s) Curved face(s)

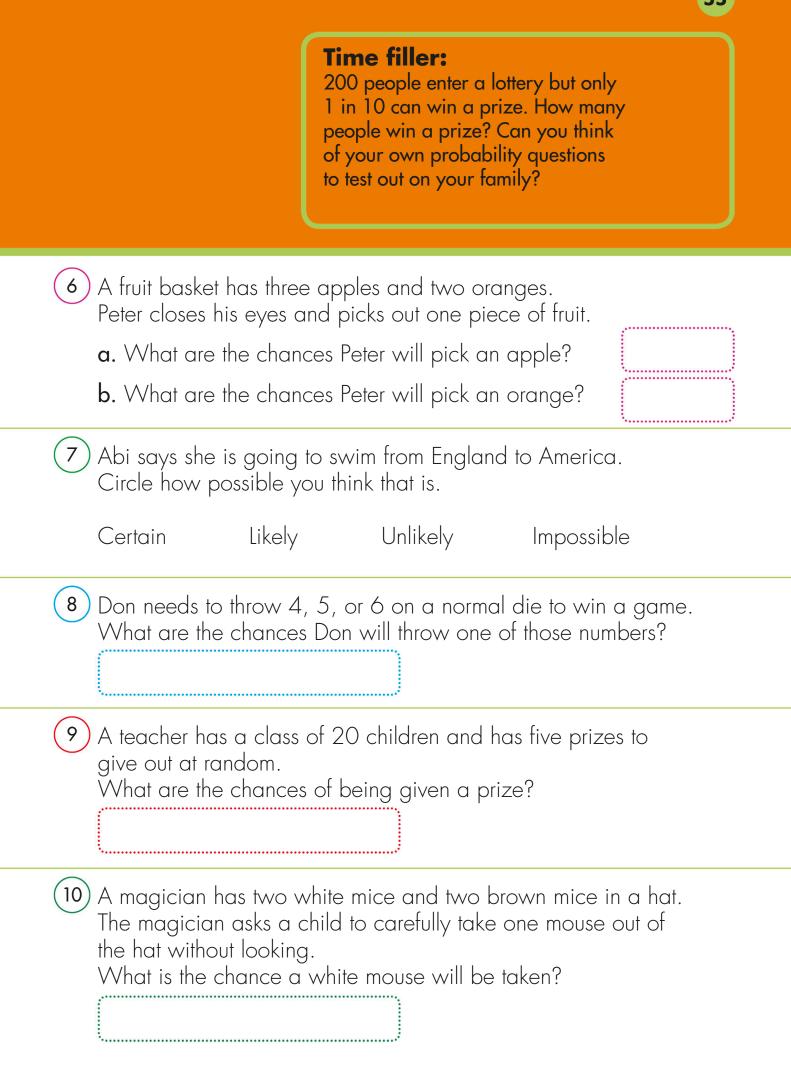


Probability problems

What is the chance of you getting all these questions correct in 10 minutes? Feeling confident? Then start!

54







Here are some problems to solve about speed. How quick will you be in answering them correctly?

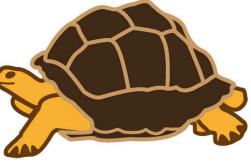
 Jacek walks 3 km in one hour. Victoria walks 4 km in two hours. If they carry on walking at the same speed, how far will they each walk in 6 hours?

2) Krysta cycles 200 m in 3 minutes.

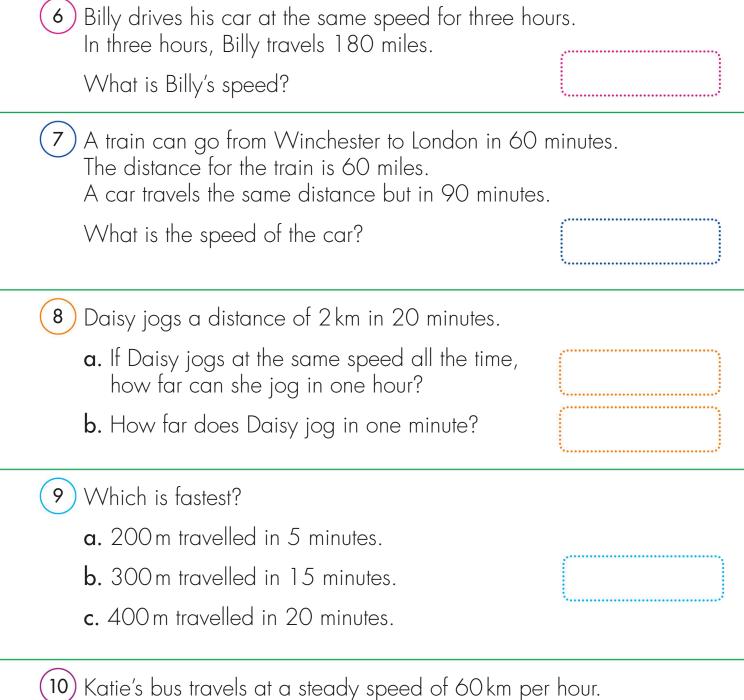
- **a.** If Krysta cycles at the same speed, how long will it take her to cycle 1 km?
- **b**. What speed is Krysta doing in kilometres per hour?
- 3 Marcel swims 1,200 m in half an hour.
 Angelique swims 500 m in 15 minutes.
 After one hour, who has swum the farthest and by what distance?

A car travels at 60 mph for one hour. How far does it travel every ten minutes?

5 A tortoise can travel 20 cm in ten minutes. If the tortoise keeps the same speed, how far will it travel in two hours?



Measure out a distance of 10 metres. How many laps up and down can you do in 1 minute? If you kept running at the same speed for 1 hour, how many laps could you do? (Hint: x60) What is your speed per hour? (Hint: x10)



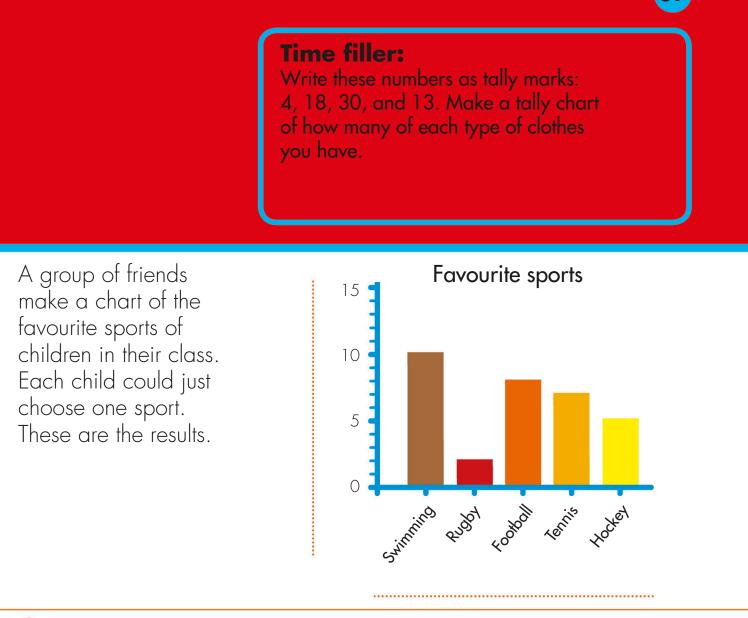
The bus travels 240 km. How long has Katie been travelling?

57

Tables and charts

Remember, counting in fives is a usual way of quickly counting up tallies.

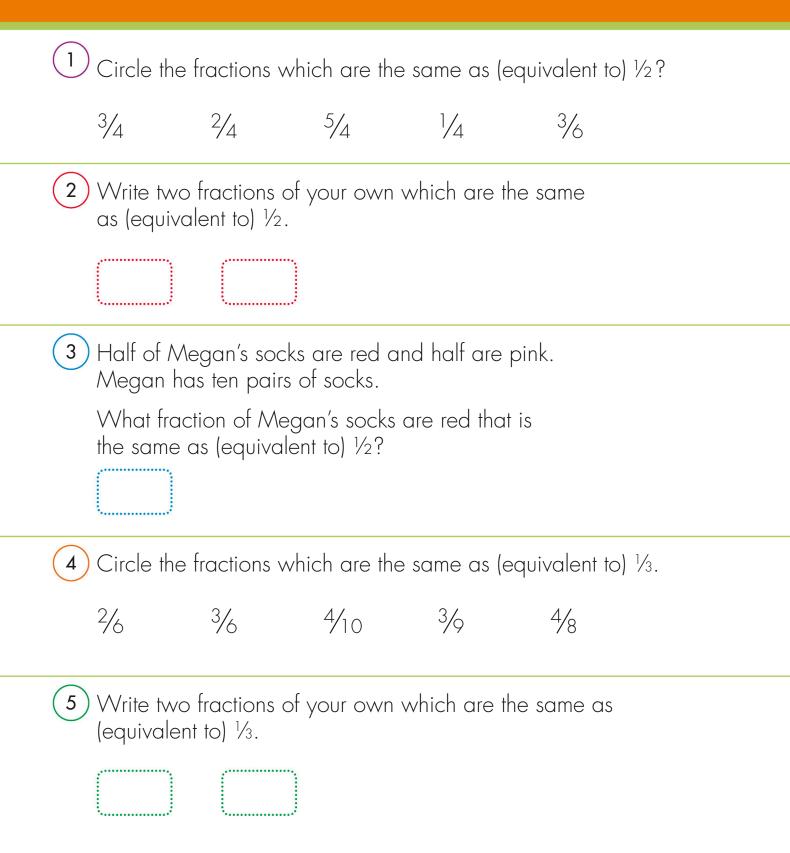
Tommy collects information about the number of	Birds	Tallies			
different types of birds in 'his garden. He collects	Sparrow				
the data using a tally chart. These are his results.	Robin				
	Wren	1			
	Magpie)(
	Blue tit	THE THE THE THE II			
	Pigeon				
1 a. How many robins did Tommy see?					
b . How many pigeons did Tommy see?					
2 a. Which bird did Tommy see the most?					
b . Which bird did Tommy see the least?					
3 How many birds did Tommy see in total?					
4 How many more sparrows did Tommy see than blue tits?					
5 How many types of bird did Tommy see less than ten times?					



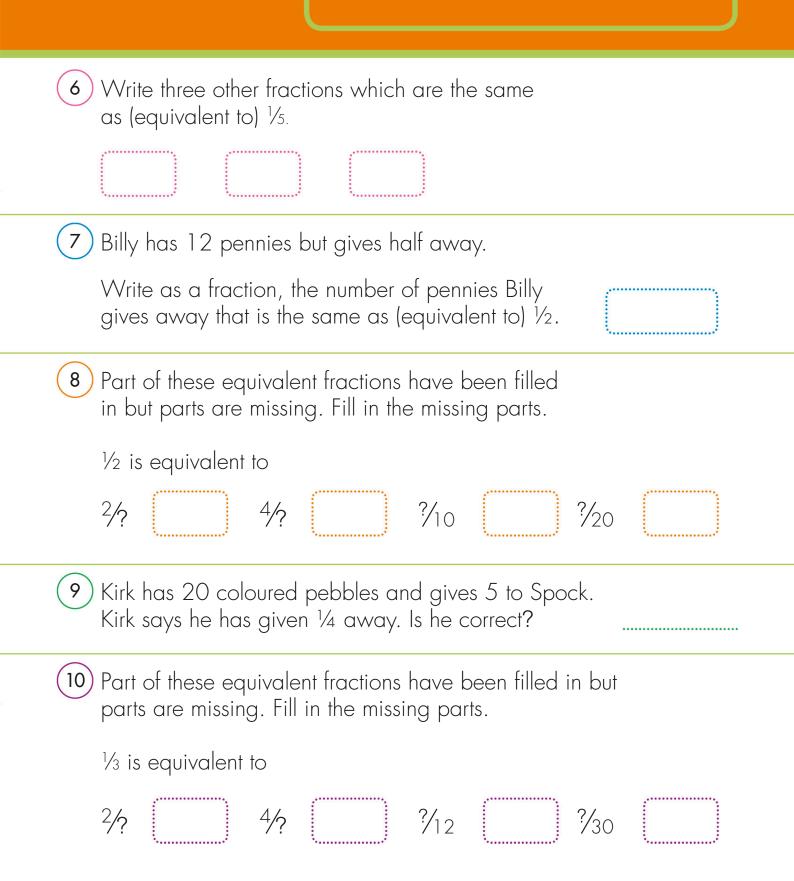
6 a. Which was the favourite sport?	
b. Which was the least favourite sport?	
7 How many more children preferred football to tennis?	
8 How many children were there in the class?	
9 Which two sports together had a total vote of 7?	

More fractions

Equivalent fractions are fractions that have the same value as each other. Remember to multiply or divide the numerator with the same number as the denominator.

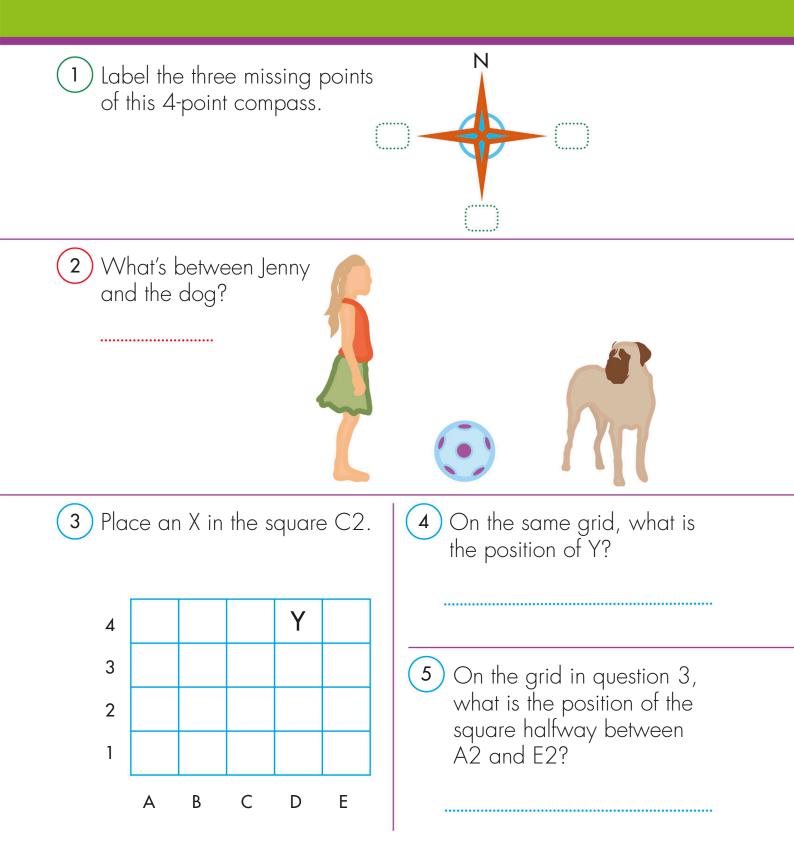


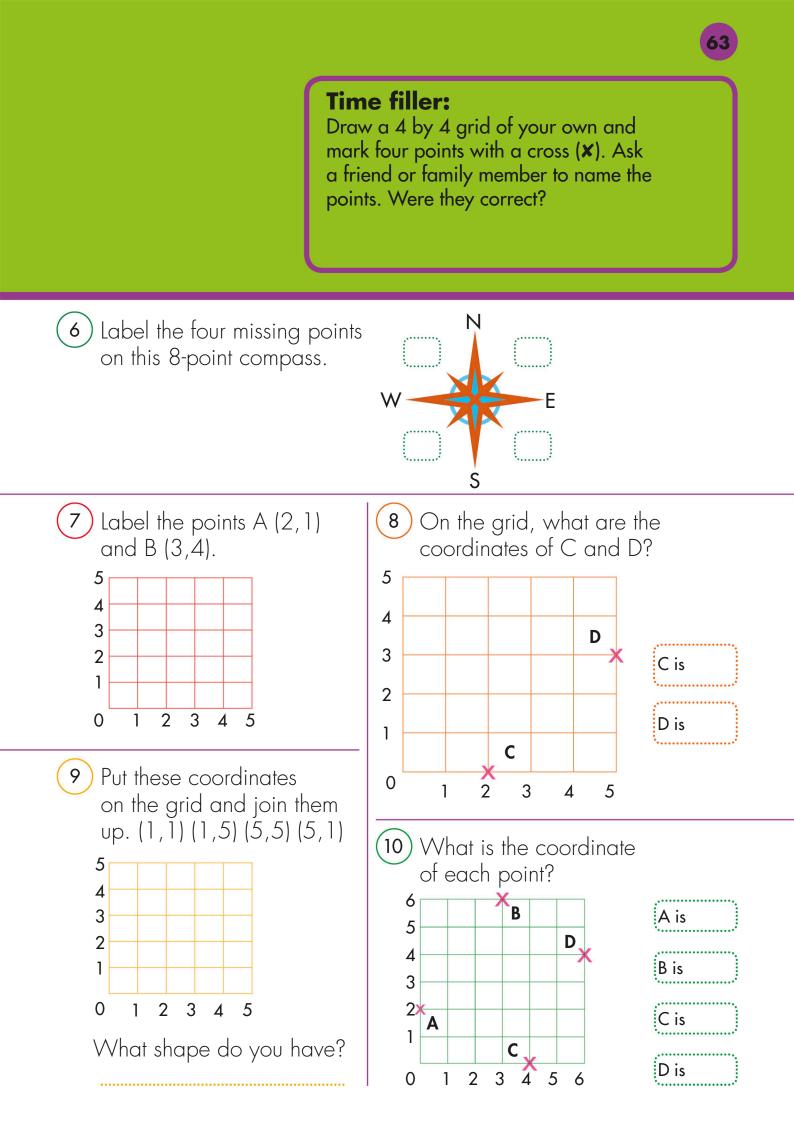
Draw a circle and colour in the fraction $\frac{3}{4}$. Now show the colour part as the equivalent fraction $\frac{6}{8}$ on the circle. Then show as $\frac{12}{16}$ and $\frac{30}{40}$ by drawing on more lines with a ruler.





Compass directions, grid references, and coordinates all help to show the position of things.

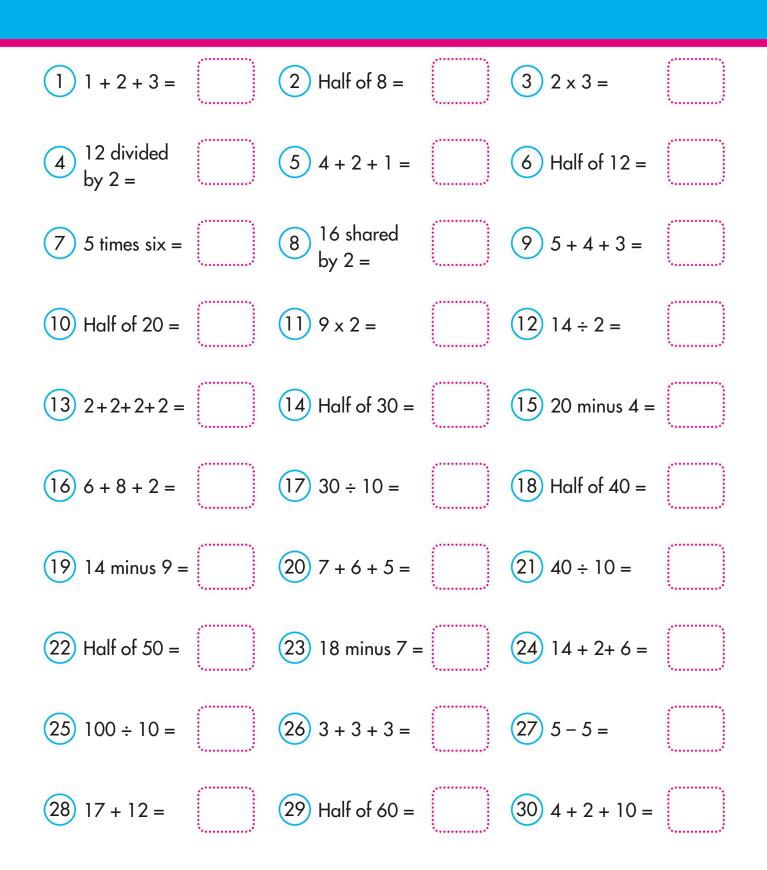






Beat the clock 3

Can you beat the clock for a third time solving all these 60 mixed-up, mental arithmetic questions in 10 minutes? That is 10 seconds for each one! Get set, go.



Think of an even number between 10 and 50, halve it, add 3, multiply by five, double it, and divide by five. What do you need to subtract to get back to your original number? Try this again with another number.

(3) Half of 80 =
 (32)
$$42 - 3 =$$
 (33) $5 + 5 + 5 =$

 (34) $50 \div 10 =$
 (35) $18 - 8 =$
 (36) Half of 100 =

 (37) Double $5 =$
 (38) $4 + 4 + 2 =$
 (39) $3 \times 20 =$

 (40) $100 - 10 =$
 (41) Double $6 =$
 (42) $80 \div 8 =$

 (43) $30 \times 2 =$
 (44) $70 - 30 =$
 (45) $40 \times 2 =$

 (46) $3 \text{ lots of } 8 =$
 (47) $50 \times 2 =$
 (48) $60 - 50 =$

 (49) Double $7 =$
 (50) $6 \text{ lots of } 5 =$
 (51) $20 \times 3 =$

 (52) $6 \times 3 =$
 (53) Double $6 =$
 (54) $20 \div 4 =$

 (53) $44 - 6 =$
 (56) $6 \div 6 =$
 (57) Double $9 =$

 (58) $4 \div 4 =$
 (59) Double $10 =$
 (60) $70 - 24 =$