

National Curriculum Baseline Test

Key Stage 2

Mathematics

Paper 3: reasoning

First name						
Middle name						
Last name						
Date of Birth	Day		Month		Year	
School name						

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Please do not write on this page.

Instructions

You **must not** use a calculator to answer any questions in this test.

Questions and answers

You have 40 minutes to complete this test.

Follow the instructions for each question.

Work as quickly and as carefully as you can.

If you need to do working out, you can use the space around the question.

Some questions have a method box like this:

Show your method

For these questions, you may get a mark for showing your method.

If you cannot do a question, **go on to the next one.**

You can come back to it later, if you have time.

If you finish before the end, **go back and check your work.**

Marks

The number under each line at the side of the page tells you the maximum number of marks for each question.

1

A group of friends earn £95 by selling cakes at a summer fair.

They share the money **equally**.

They get £19 each.

How many friends are in the group?

1 mark

2

Write three factors of 36 that are **not** factors of 18.

1 mark

3

Here is a train timetable from London to Glasgow via Birmingham.

	London	Birmingham	Glasgow
Mon–Fri	8:13	11:47	14:23
Saturdays	9:00		15:10

What time does the train arrive in Birmingham on Saturdays?

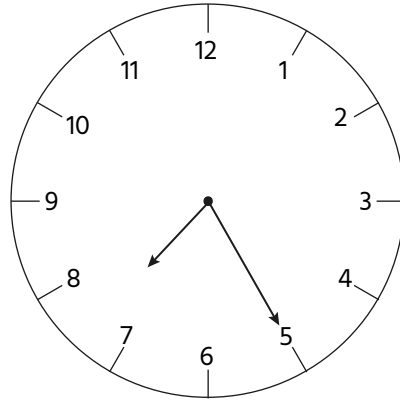
1 mark

A signalling problem on a Tuesday causes the bus to arrive in Glasgow three-quarters of an hour late. What is its new arrival time using 24-hour clock?

1 mark

4

A clock shows this time twice a day.



Tick the two digital clocks that show this time.

05:37

07:25

08:25

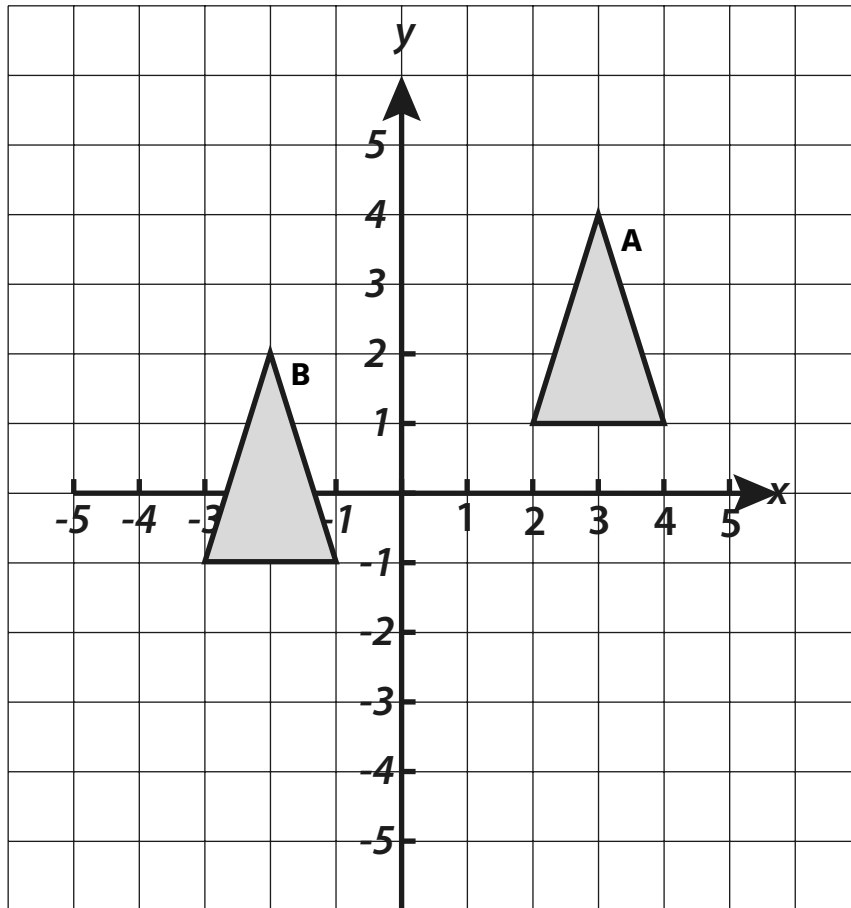
17:25

19:25

1 mark

5

A triangle is translated from position A to position B.



Complete the sentence.

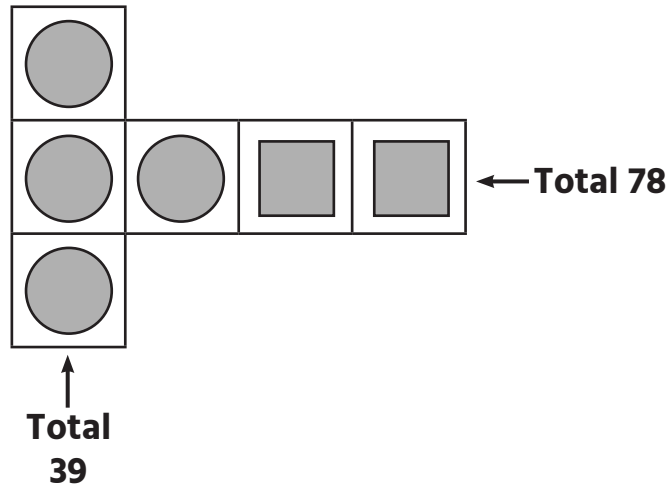
The triangle has moved squares to the left

and squares down.

1 mark

6

Each shape stands for a number.



Work out the value of each shape.

$$\text{Circle} = \underline{\hspace{2cm}}$$

1 mark

$$\text{Square} = \underline{\hspace{2cm}}$$

1 mark

7Write the missing number to make this **division** correct.

$$34 \div \boxed{} = 3.4$$

1 mark**8**A dressmaker cuts **14** metres of fabric into **three** pieces.

The length of the first piece is 4.39 metres.

The length of the second piece is 6.98 metres.

Work out the length of the third piece.

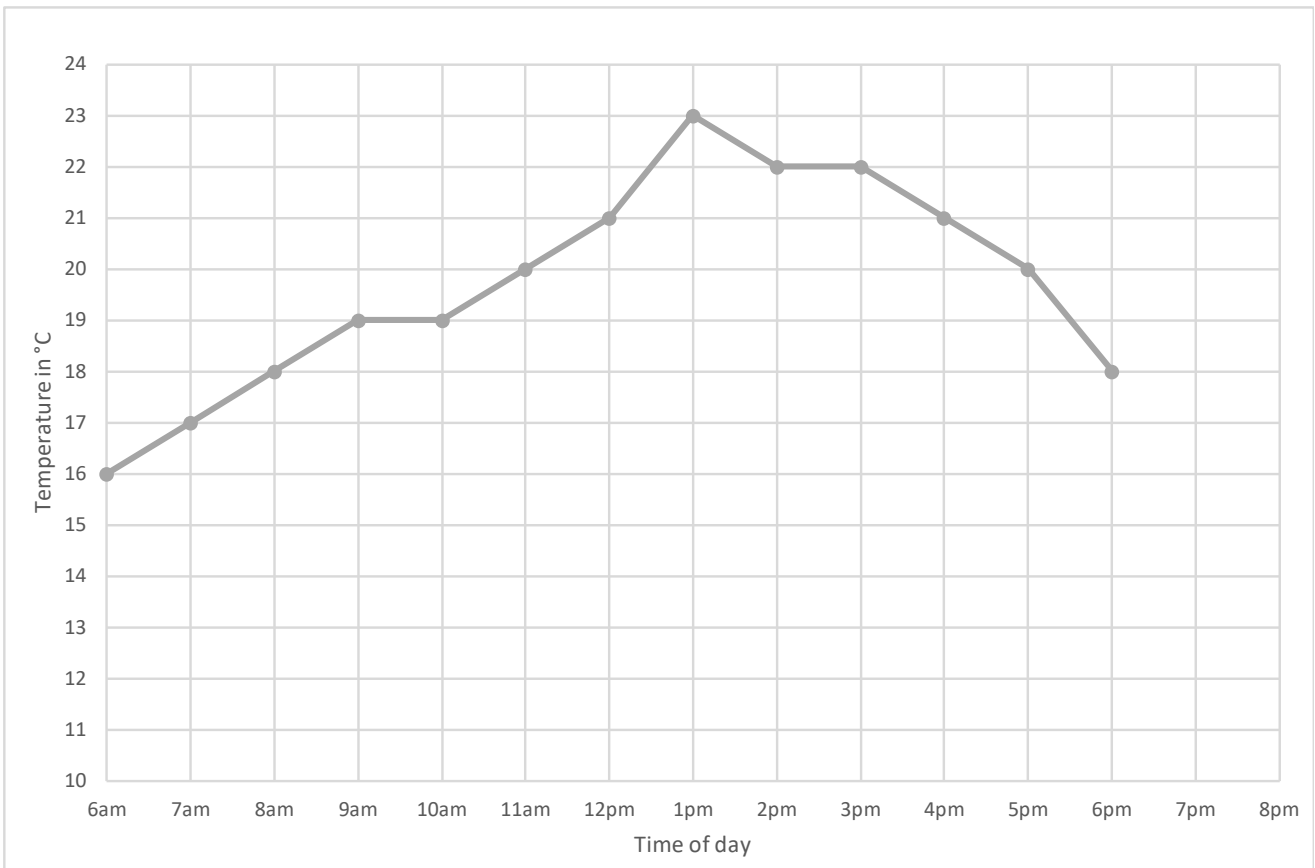
Show
your
method

metres

2 marks

9

This graph shows the temperature in °C from 6am to 6pm on a summer's day in London.



How many degrees warmer was it at 6pm than at 6am?

°C

1 mark

At 8pm the temperature was 4 degrees lower than at 4pm.

What was the temperature at 8pm?

1 mark

10In each box, circle the number that is **greater**.

$1\frac{1}{3}$

1.3

$1\frac{1}{5}$

1.5

$1\frac{8}{100}$

1.8

$1\frac{5}{6}$

1.6

2 marks

11

A bag contains 726 grams of flour.

A chef uses **half a kilogram**.



How much flour is left?

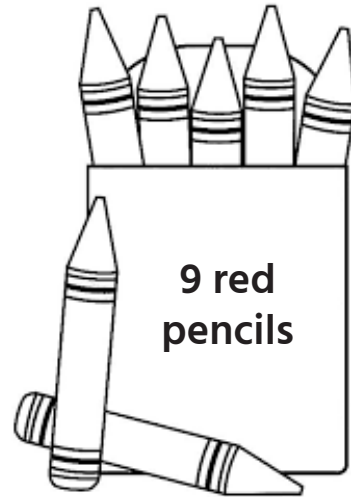
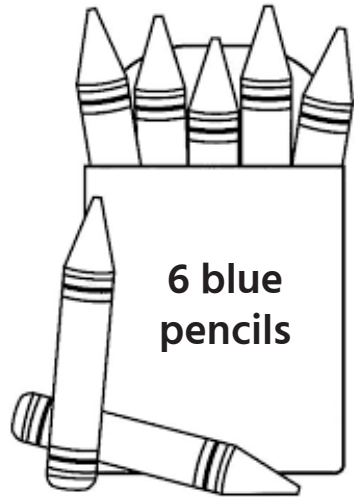
1 mark

12

A garden pond has a diameter of 1.9m.

What is the **radius** of the garden pond?

1 mark



Harry buys **3** bags of blue pencils.

Polly buys **6** bags of red pencils.

Polly says,

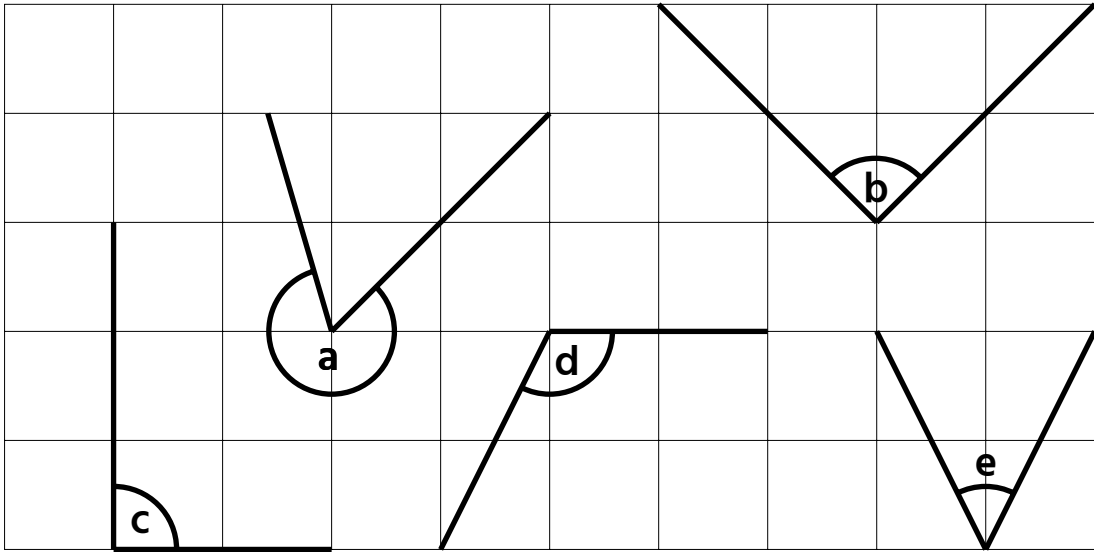
'I have three times as many pencils as Harry.'

Explain why Polly is correct.

1 mark

14

Here are five angles drawn on a square grid.



Write the letters of the angles that are **reflex**.

1 mark

Write the letters of the angles that are **right-angled**.

1 mark

16

A cube number and a prime number have a total of 30.

What are the two numbers?

$$\begin{array}{ccc} \boxed{} & + & \boxed{} = 30 \\ \text{cube} & & \text{prime} \\ \text{number} & & \text{number} \end{array}$$

1 mark

17

Shiv thinks of a **whole** number.

He multiplies it by 3.

He rounds his answer to the nearest 10.

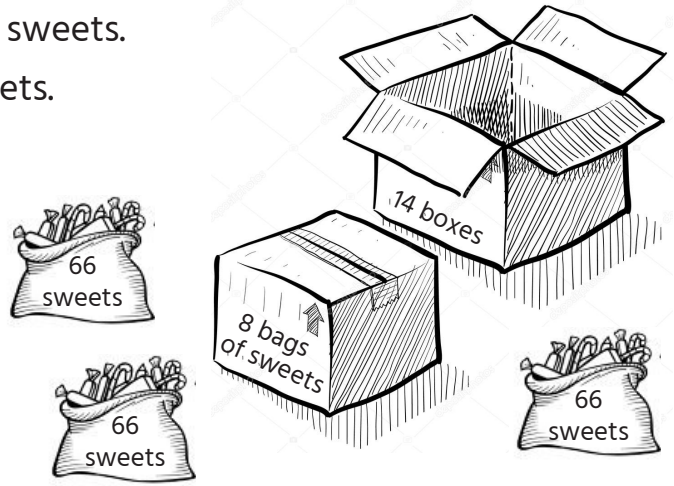
The result is 60.

Write all the possible numbers that Shiv could have started with.

2 marks

18

A sweet shop orders 14 boxes of sweets.
Each box contains 8 bags of sweets.
Each bag contains 66 sweets.



How many sweets does the shop order in total?

Show
your
method

																		sweets	

2 marks

19

Stephanie had some money.

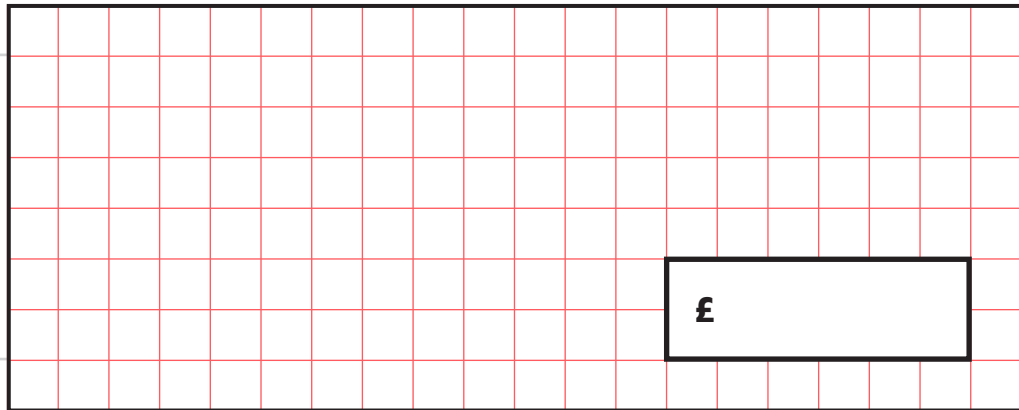
She spent £2.20 on a coffee.

She spent £4.90 on a salad.

She has a **two-thirds** of her money left.

How much money did Stephanie have to **start with**?

Show
your
method



£

2 marks

20Circle two numbers that multiply together to equal **1 million**.

2

20

100,000

50,000

500

1 mark**21**

Here is the morning timetable for Khai's class this week.

Time	Mon	Tues	Wed	Thu	Fri
9:00am–10:30am	Maths	English	Science	Maths	History
10:30am–11:00am	Break	Break	Break	Break	Break
11:00am–12:00pm	Science	Maths	P.E.	English	French

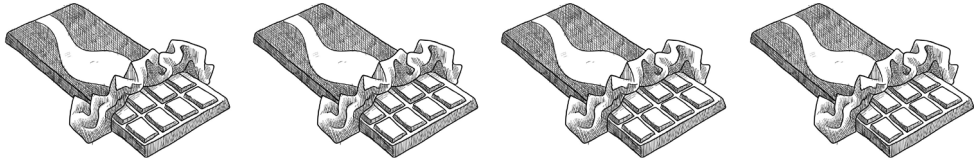
What is the **total** number of hours for **Maths** on this timetable?

hours

1 mark

22

Martin buys four chocolate bars.



He pays with a £2 coin.

This is his change.



What is the cost of **one** chocolate bar?

Show
your
method

A large grid of red lines on a white background, intended for showing the method to find the cost of one chocolate bar. A small empty rectangular box is drawn in the bottom right corner of the grid.

2 marks

23

The numbers in this sequence increase by 17 each time.

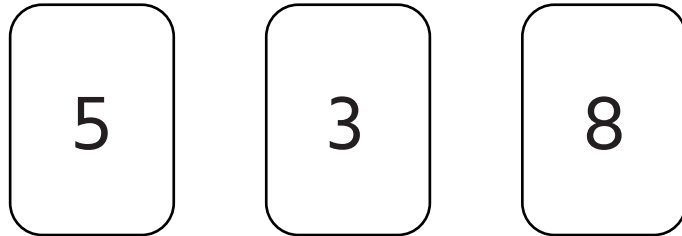
Write the missing numbers.

54 71 105 139

2 marks

24

Lucy uses these digit cards.



She makes a 2-digit number and a 1-digit number.

She multiplies them together.

Her answer is a **multiple of 10**.

What could Lucy's multiplication be?

×

1 mark



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This test has been designed by our staff to help Explore Learning members prepare for the KS2 SATs, using questions similar to examples provided by the Standards and Testing Agency.