Key Stage 2

Mathematics

Practice Paper 3-1: reasoning

First name	
Middle name	
Last name	
Date of birth	Day Month Year
School name	
DfE number	

Time: 40 minutes.
No calculators allowed.
35 marks

Instructions

You **may 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.
Do not write over any barcodes.

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 box at the side of the page tells you
the maximum number of marks for each question.

1 The numbers in this sequence decrease by 12 each time

Write the missing numbers

102 [ ] 78 66 [ ] 42

2 mark

Ref: 3C1

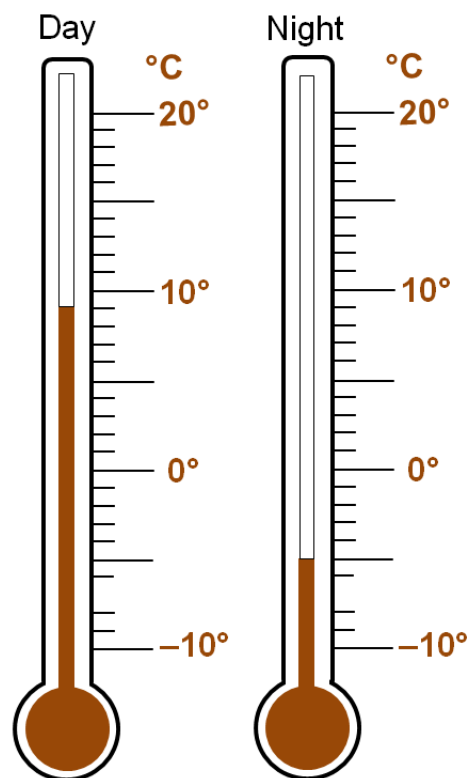**2** What time is it in the afternoon (✓).

15:05 [ ]   14:55 [ ]   13:11 [ ]   11:15 [ ]

1 mark

Ref: 4M4b

---

3 The thermometers show the temperature at day and night.

Day   Night

°C   °C
20°   20°

10°   10°

0°   0°

−10°   −10°

What is the difference between the two temperatures?

°C

Yesterday the temperature was 2 degrees lower at night.

What was the temperature at night yesterday?

°C

Ref: 6N5

4 Some boys and girls went swimming.

14 more girls than boys went swimming

Key 🙂 = ☐ children

| Boys | 🙂 🙂 🙂 |
| Girls | 🙂 🙂 🙂 🙂 🙂 |

Complete the key

How many children went swimming altogether

☐ Children

1 mark

1 mark

Ref: 6A2

5 Order these decimals starting with the smallest.

0.321   0.239   0.402   0.41   0.09

smallest

1 mark

Ref: 5F8

6 Henry poured 3 piles of sand from a 5 kilogram bag.

He emptied the bag.

The first pile weighed 1.23 kg

The second pile weighed 2.89kg

Work out the weight of the third pile.

Show your Method

kg

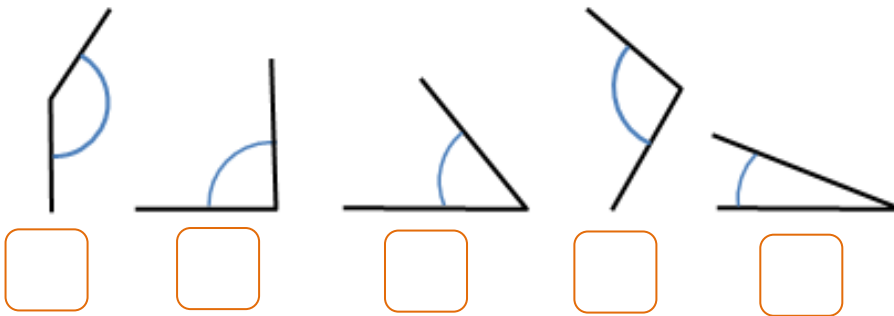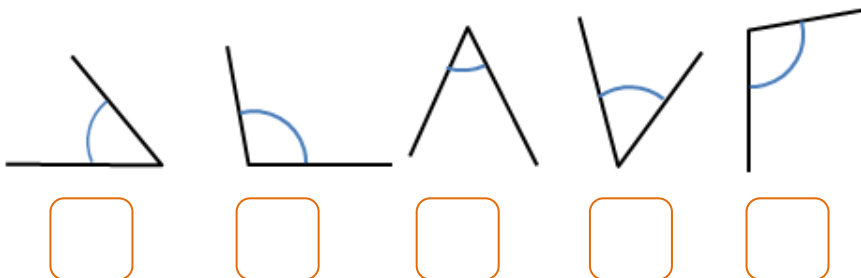2 marks

Ref: 4F10b

7 Order these angles by size with 1 the smallest
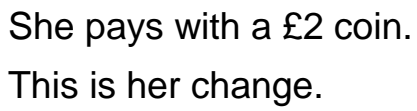

☐ ☐ ☐ ☐ ☐

Mark each angle as acute (A) or Obtuse (O)

☐ ☐ ☐ ☐ ☐

1 mark

1 mark

Ref: 4G4

8 Poppy buys 6 bananas.

She pays with a £2 coin.

This is her change.

What is the cost of one banana?

Show your Method

p

2 marks

Ref: 6C8

9 Here is part of the train timetable from Grimsby to London.

Grimsby	09:34	15:45
London	12:28	

How long does it take the 09:34 train to get to London

hours	minutes

1 mark

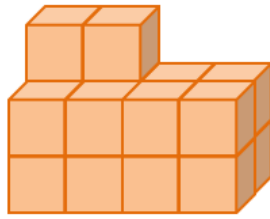The 15:45 train takes the same time to get to London

Complete the timetable

1 mark

Ref: 5S1

10 Poppy made a shape with some blocks.

Write the letter of the shape that has the same volume

A

B

C

D

1 mark

11 A supermarket ordered 35 boxes of oranges.

Each box contains 4 trays of oranges

Each tray contains 12 oranges.

How many oranges did the supermarket order in total

Show your Method

oranges

2 marks

Ref: 6C7a

12 Poppy picks a number less than 20
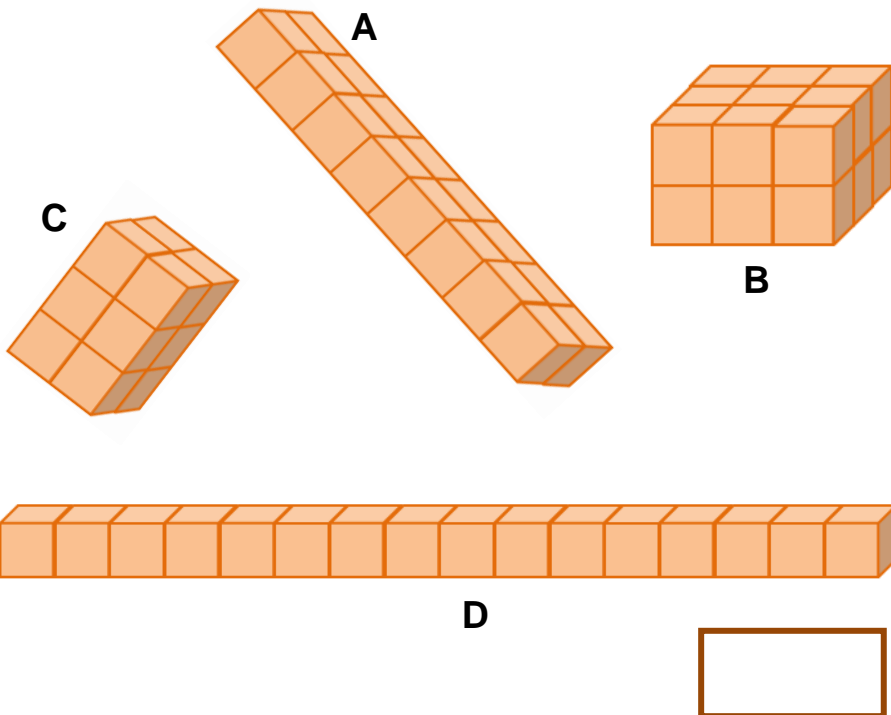
She divides it by 3 and then adds 5

She then multiplies this result by 2

Her answer is 18.4

What was the number she started with?
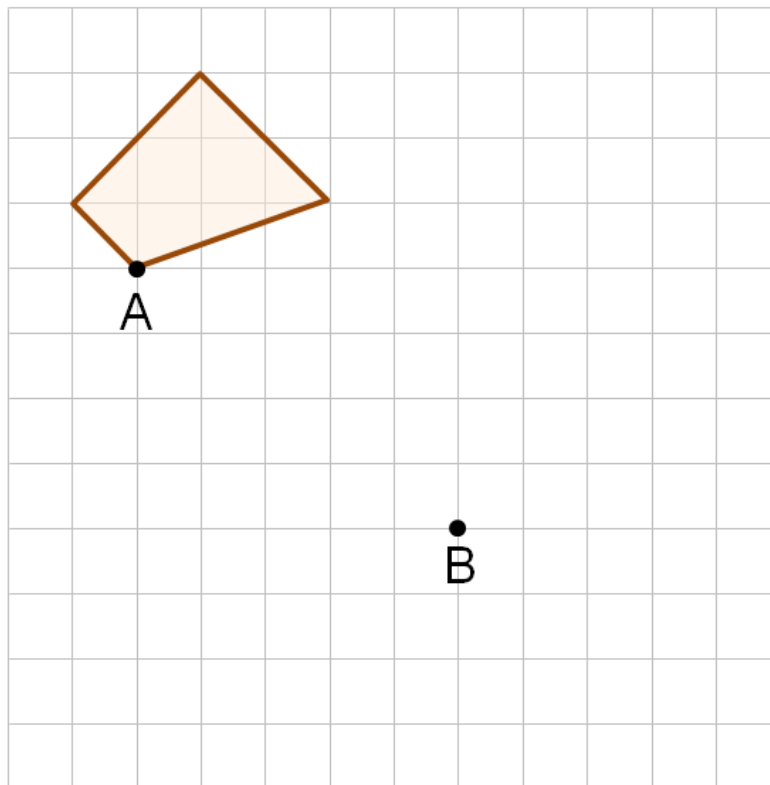
Show your Method

2 marks

Ref: 5F10

13 Look at the shaded shape on a grid.

The shape is translated so that point A moves to point B.

Draw the shape in its new position

Use a ruler

1 mark

Ref: 4P2

14 Henry was born in **MMXI**

What year was that?

[   ]

○ 1 mark

Poppy's teacher was born in **MCMLXXVI**

What year was that?

[   ]

○ 1 mark

Ref: 5N3b

---

15 Round 123, 456

to the nearest 100,000 [   ]

to the nearest 1,000 [   ]

to the nearest 10 [   ]

○ 2 mark

Ref: 5N4

16 Two oranges balances 5 bananas.

The mass of an orange is 300 grams

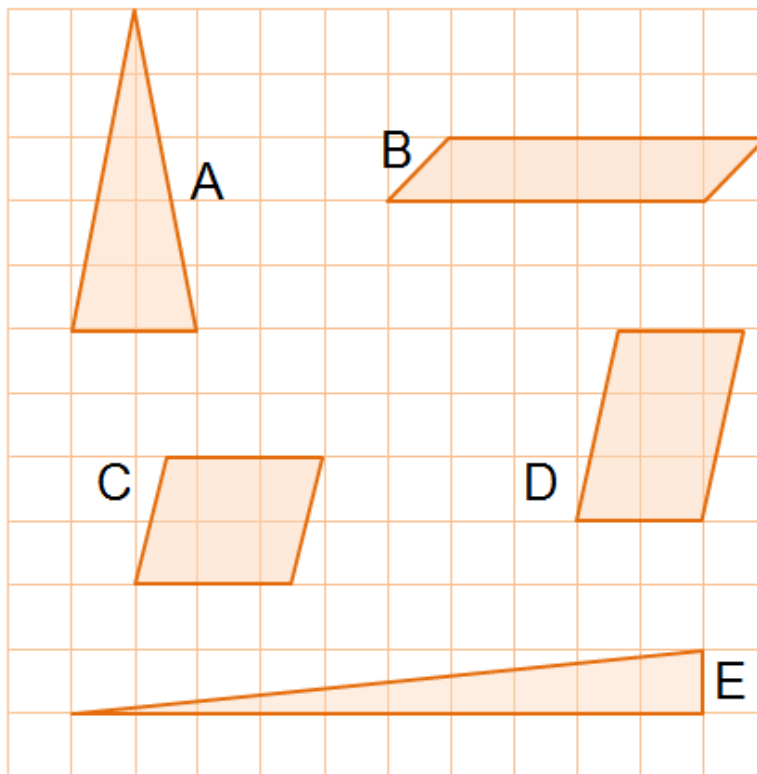What is the mass of one banana?

Show your Method

grams

2 mark

Ref: 6R4

17 Look at the triangles and parallelograms on a square grid.

One of the shapes has a different area

Which shape has a different area

1 mark

18 Henry weighed himself in his 5th Birthday .

He was 20Kg

He weighed himself again on his 6th birthday.

He was 24kg

What was the percentage increase in his weight?

Show your Method

%

2 marks

Ref: 6R2

---

19 Tick two numbers which multiply to make 600, 000

20   200   300   2,000   3,000

☐   ☐   ☐   ☐   ☐

1 mark

Ref: 6N6

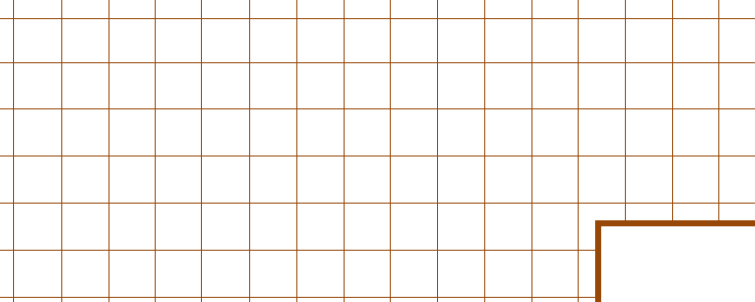**20** David had a bag of rice

He weighed out 2 piles.
The first pile was 1.05kg
The second pile was 1.45kg

He has **four-fifths** of the rice left.

How much rice was in the bag to **start with**?

Show your Method

kg

2 marks

Ref: 5F10

21 19 × 16.8 = 319.2

Use this fact to work out 319.2 ÷ 190

Ref: 6C8

1 mark