

National curriculum tests

Key Stage 2

Mathematics

Practice Paper 2-2: 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.

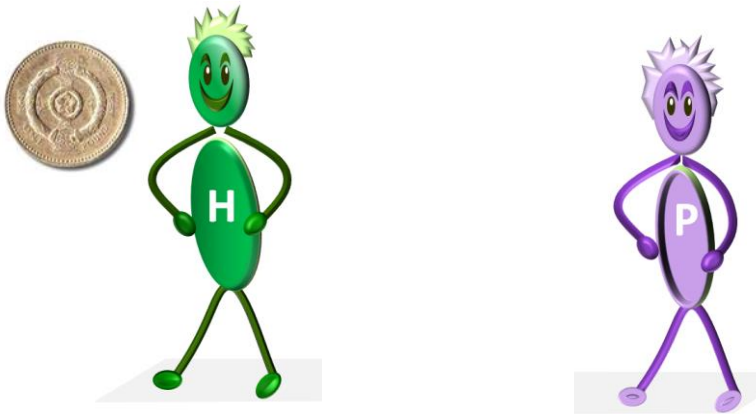
If you finish before the end, **go back and check your work.**

Marks

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

1

Henry has £1, but Poppy has ten pence **less**.



How much does Poppy have.



1 mark

Ref: 3N2a

2

A large, shiny gold bag with a drawstring top. The bag is filled and has a textured, metallic appearance. The text "100 marbles" is written in a bold, black, sans-serif font across the center of the bag. The number "100" is on the top line, and the word "marbles" is on the bottom line.

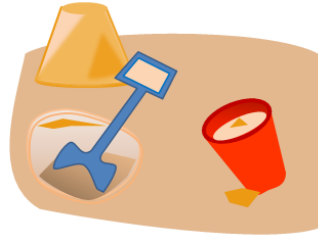
How many marbles are left in the bag?

[illegible]

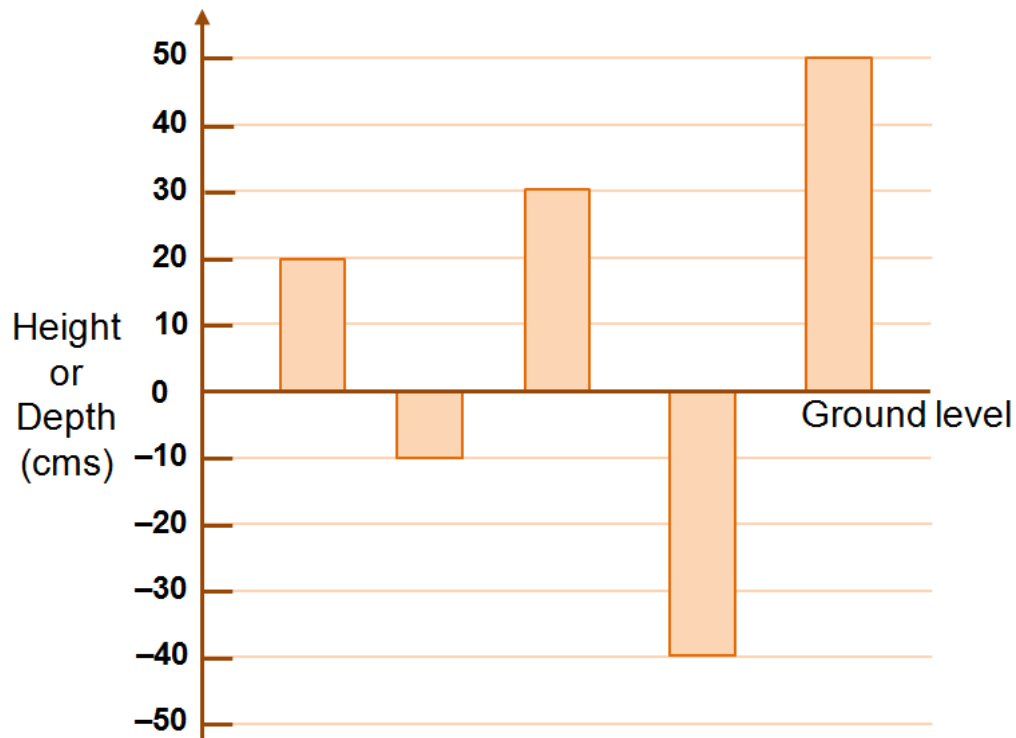
Ref: 3C8

3

Henry was at the beach building sand castles and digging holes



This graph show the height of a castle or the depth of a hole



What's the difference in height between the smallest and tallest castle

 cm


1 mark

What the difference between the tallest castle and the deepest hole

 cm

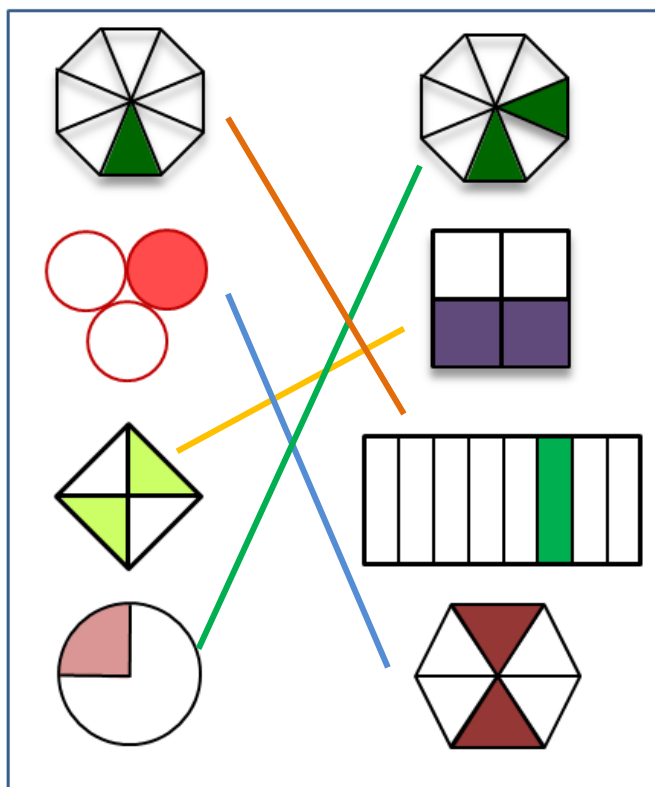

1 mark

Ref: 4S1

4

Here are some shaded shapes.

Draw a line to match fractions



2 marks

Ref: 4F2

5

How many minutes are in $5 \frac{1}{2}$ hours?

minutes



1 mark

Ref: 4M4c

6

Henry and Poppy were chatting about their ages.

I am 9 years 2 months old



.. and I am 6 years 11 months old



What's the difference between their ages in years and months

years months



1 mark

Ref: 5M4

7

Colour crossing the grid using multiples of 7



1 mark

Ref: 5C5a

8



She uses this formula to work out how much to charge for one box of marbles.

Cost = number of marbles \times 30p + 50p for the box

How much is a box of 20 marbles?

£

Jane buys a box of marbles for £5

Use the formula to calculate how many marbles are in the box

Show
your
Method

marbles

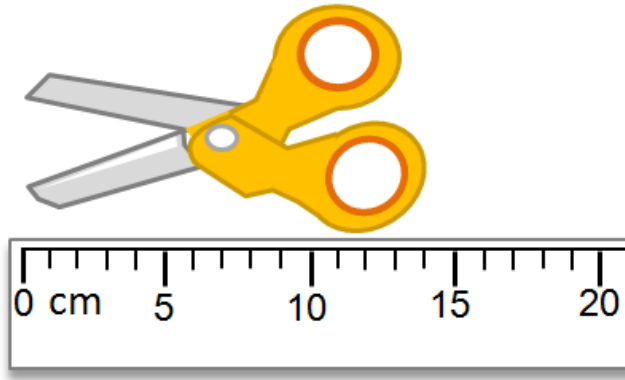
Ref: 6A2

1 mark

2 marks

9

How long are the scissors (✓)



10cm

☐

13cm

☐

14cm

☐

15cm

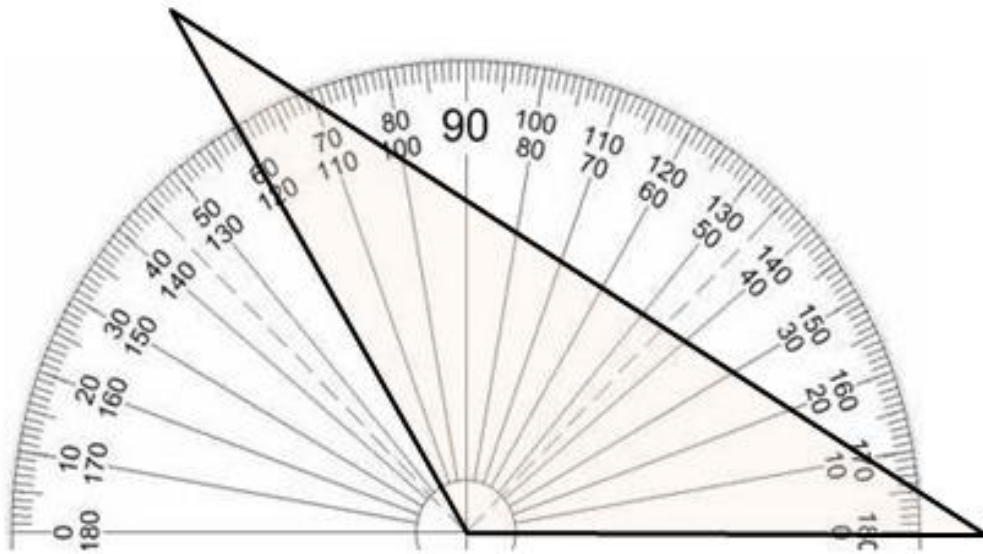
☐

1 mark

Ref: 3M2a

10

Here is a triangle



How many degrees is the largest angle



1 mark

Ref: 5G4

11

Write the two missing digits to make this long multiplication correct

$$\begin{array}{r} \boxed{} 4 \\ \times 2 \boxed{} \\ \hline 1 2 \\ 6 0 \\ \hline 7 2 \end{array}$$

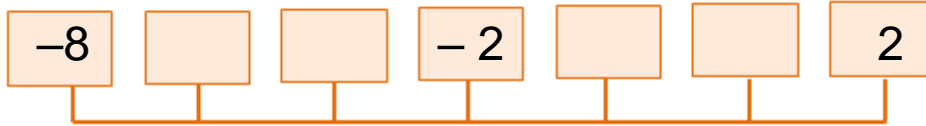


2 marks

Ref: 5C7a

12

Put the numbers on the number line.



0 -5 -6 -1



1 mark

Ref: 5N5

13

Henry measured the length of two worms.



The smallest was 0.012 m
The largest was 0.014 m

What was the difference in their lengths

m

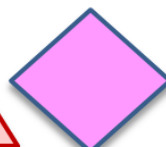
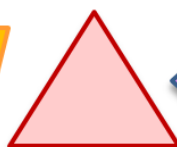
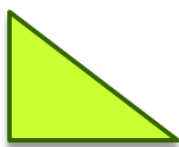
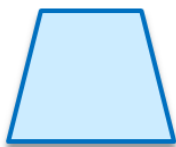


1 mark

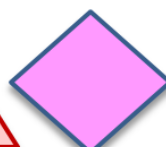
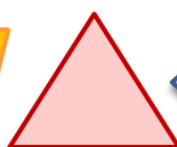
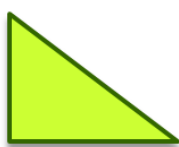
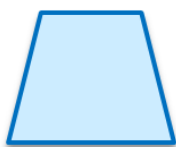
Ref: 5F10

14

Which shape has perpendicular sides (✓)


☐
☐
☐
☐
☐

Which shapes have parallel sides (✓)


☐
☐
☐
☐
☐
☐

1 mark

☐

1 mark

Ref: 3G2

15

Round 249, 646

to the nearest 10,000

to the nearest 1,000

to the nearest 100

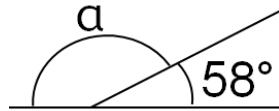


2 marks

Ref: 5N4

16

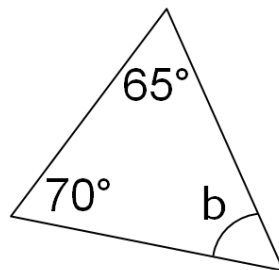
Calculate the size of angle a



a is \circ

1 mark

Calculate the size of angle b



Show
your
Method

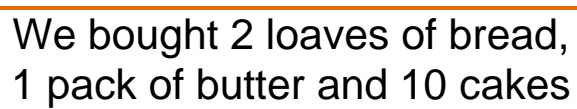
b is \circ

1 mark

Ref: 6G4a/b

17

For our picnic we bought some food



We will share the cost between 10 of us

How much will each of us pay?

Show
your
Method

p

Ref: 6C8

18

Name	Weight (kg)
Henry	30.6
Poppy	27.8
Brooke	28.9
Esme	29.4
Ethan	32.5
Jayden	31.7
Ayesha	29.1

What is the mean weight of the children

Show
your
Method

kg

2 marks

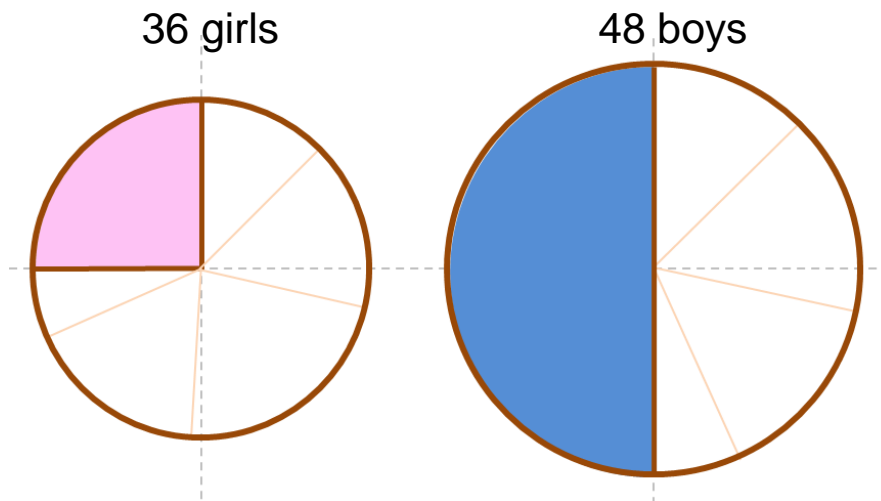
Ref: 6S3

19

Some boys and girls were asked what was their favourite colour.

These two pie charts show the results.

The girls favourite colour was pink, shown shaded
The boys favourite colour was blue, shown shaded



How many girls chose pink as their favourite

girls

1 mark

How many boys chose blue as their favourite

boys

1 mark

Ref: 6S1

20

She gave $\frac{3}{4}$ of the bag to her friends.

She had 2.4 kg left.



How many kg are there in a full bag

Show
your
Method

kg

2 marks

Ref: 6R4

21 Half a kilogram of silver costs £230.

What is the cost of one gram of silver?

Show
your
Method

A large grid of graph paper with a small box in the bottom right corner containing the letter 'p'.

2 marks

Ref: 6F10