BennettMaths Practice Paper

Key stage 2

Mathematics

Paper 3: reasoning

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

BennettMaths
Engaging Learners
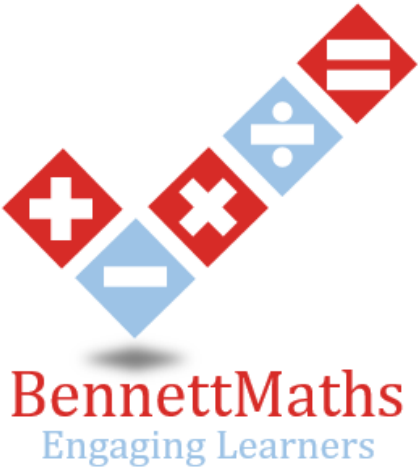
Instructions

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.
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.

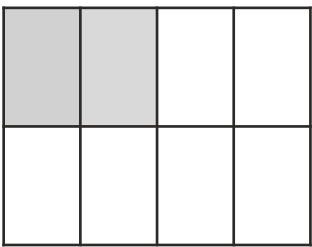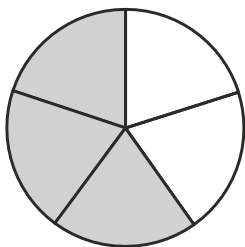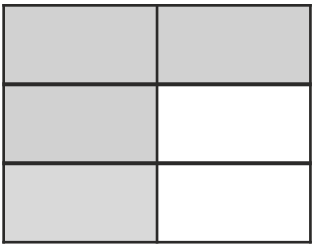If you finish before the end, **go back and check your work**.
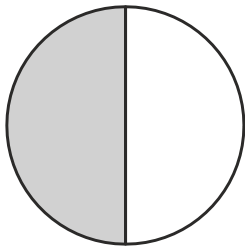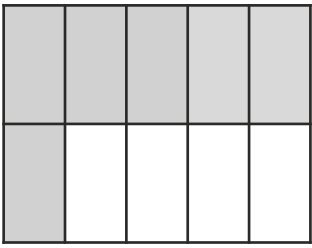
Marks

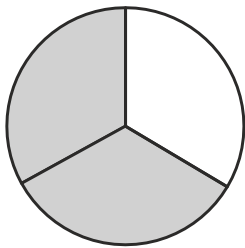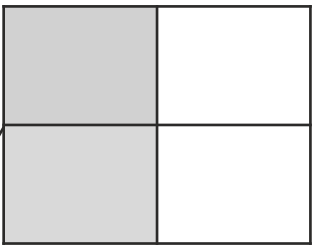The number under each line at the side of the page tells you the number of marks available for each question.

1 These shapes have a fraction shaded.

Match each shaded fraction of a circle to the same shaded fraction of a rectangle.

One has been done for you.
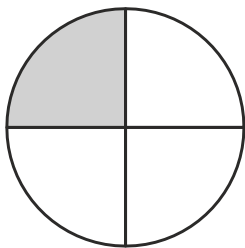
1 mark

2   The temperature in a freezer is –35 °C.

The temperature increases by 15 °C.

What is the new temperature?

°C

1 mark

3 Leo buys milk and orange juice from a shop.

milk

Apple
Juice

£1.55   **£1.80**

He pays with a £5 note.

How much **change** does Leo get?

Show
your
method

£

2 marks

4 The diameter of the Mars is 6,779 kilometres.

What is this diameter to the **nearest hundred** kilometres?
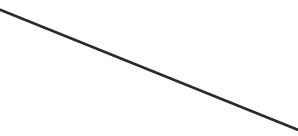
km

1 mark

5 Match each of these Roman numerals to the correct number.

One has been done for you.

CVIII	1111
DXCV	108
DLXI	595
MCXI	561

1 mark

6 Match each fraction to its equivalent simplified fraction.

One has been done for you.

Fraction	Simplified fraction

$$\frac{9}{12}$$ $\qquad\qquad$ $\frac{4}{5}$

$$\frac{40}{50}$$ $\qquad\qquad$ $\frac{2}{3}$

$$\frac{120}{200}$$ $\qquad\qquad$ $\frac{3}{5}$

$$\frac{14}{21}$$ $\qquad\qquad$ $\frac{3}{4}$

1 mark

7   Margot thinks of a number. She says,

> I multiply by 3
> I add 12
> I divide by 3
> My answer is 14
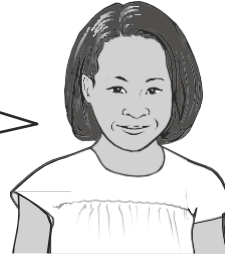
What number did Margot think of?

1 mark

8 Here is a shape.

Draw the shape after it is translated 6 units to the right.
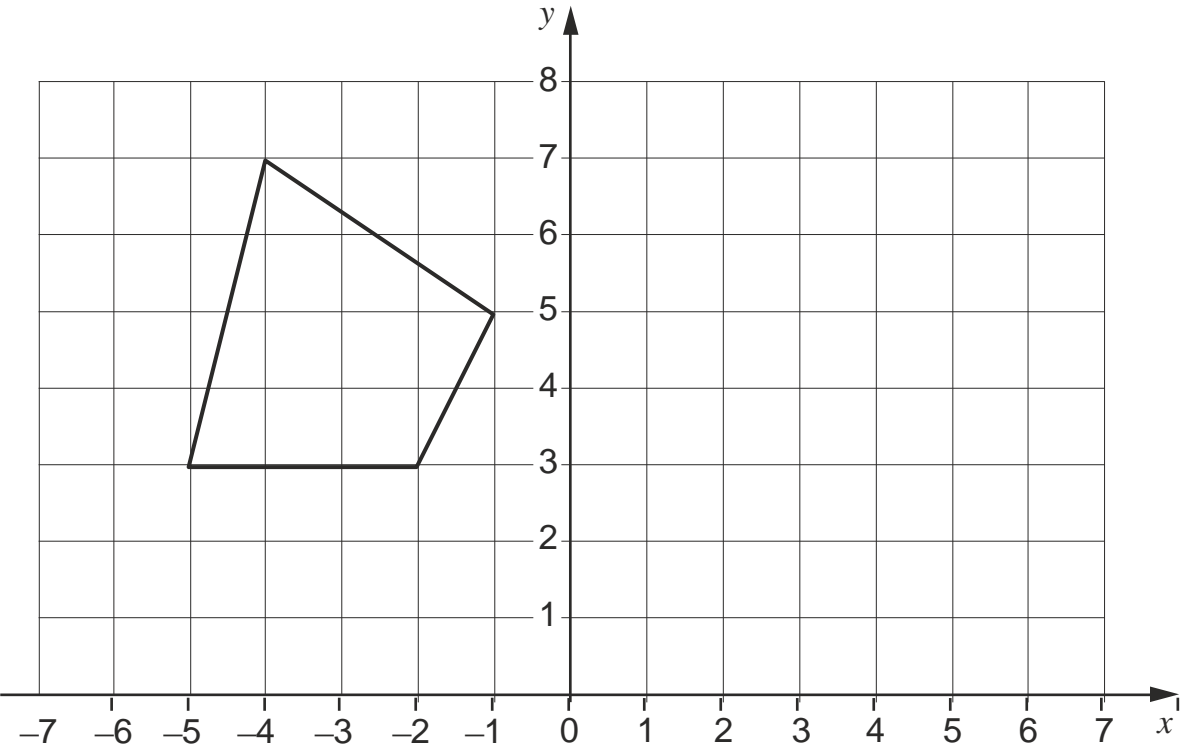
1 mark

Use a ruler.

9 Write the missing numbers in the table.

Number of weeks	Number of days
1	7
3	21
5	35
7	
11	
	140

1 mark

10
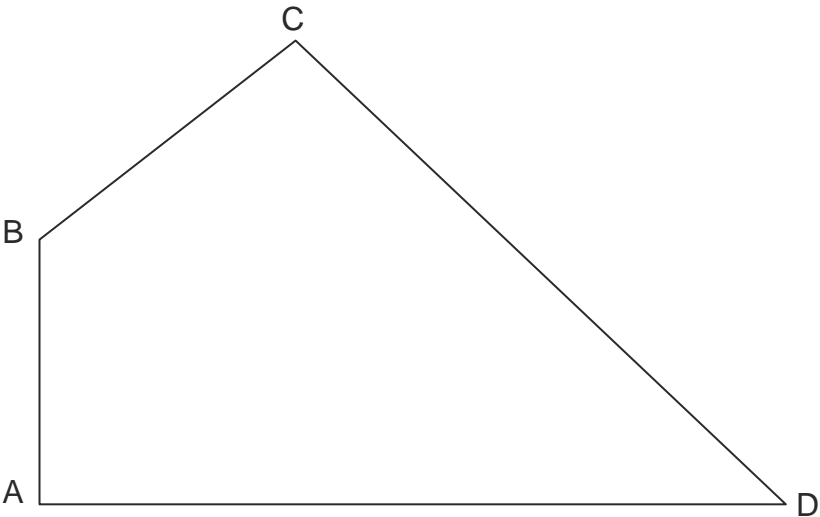
What is the perimeter of the shape, **in millimetres**?

Use a ruler.

mm

1 mark

Measure the size of angle d.

Use an angle measurer.

d is

°

1 mark

11 Write the missing digits to make this **subtraction** correct.

$$
\begin{array}{ccc}
5 & 7 & \boxed{} \\
-\quad 1 & \boxed{} & 4 \\
\hline
\boxed{} & 5 & 8 \\
\end{array}
$$

2 marks

12 Here are four fractions.

$\dfrac{7}{8}$ $\qquad$ $\dfrac{1}{5}$ $\qquad$ $\dfrac{3}{4}$ $\qquad$ $\dfrac{8}{10}$

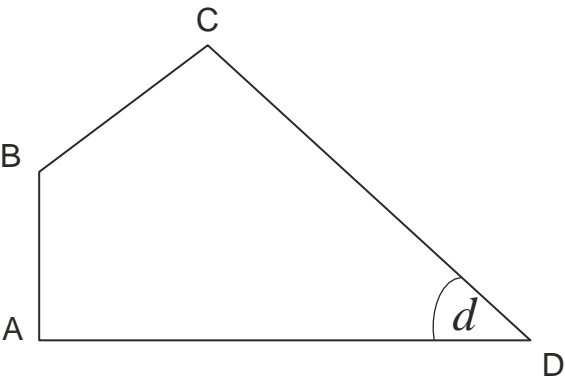$\boxed{\dfrac{5}{8}}$ $\quad$ $\boxed{\dfrac{1}{6}}$ $\quad$ $\boxed{\dfrac{4}{12}}$ $\quad$ $\boxed{\dfrac{3}{4}}$

Write the fractions in order starting with the least.

$\boxed{}$ $\boxed{}$ $\boxed{}$ $\boxed{}$

least

1 mark

13   There are 17 boxes on a truck.

The boxes are in 4 different sizes.

7 of these boxes
4 of these boxes
3 of these boxes
3 of these boxes

5kg   3.5kg

4.5kg   12kg

What is the **total mass** of the 17 boxes on the truck?
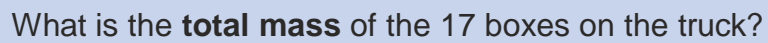
Show your method

kg

2 marks

14 Look at the data in this table.

Label	Percentage
A	30%
B	15%
C	25%
D	25%
E	5%

Using this data, draw **two** lines and write **three** labels to complete the pie chart.

Use a ruler.

2 marks

15 45% of the 720 pupils at a school have a pet dog.
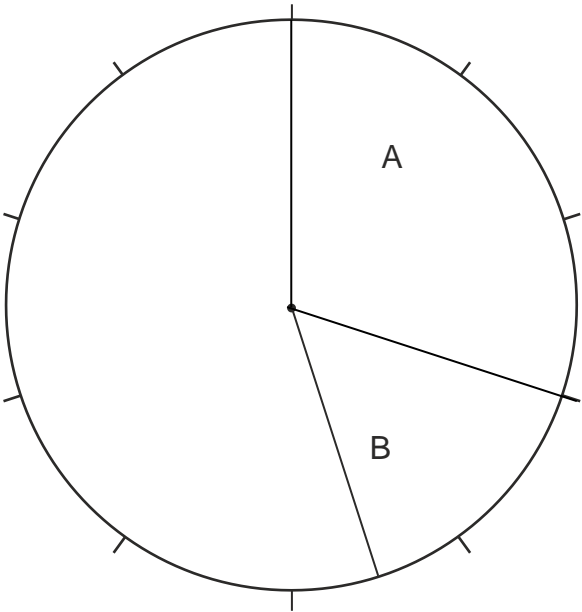
179 of the pupils who have a pet dog are girls.

How many of the pupils who have a pet dog are boys?

Show your method

2 marks

16 Write a number in the box to make this correct.

$$\frac{9}{15} \ < \ \frac{\boxed{}}{50} \ < \ 0.7$$

1 mark

17 Tick the numbers that are factors of both 45 **and** 90

2 ☐

3 ☐

5 ☐

9 ☐

10 ☐

1 mark

18 Leo wants to buy a camera that costs £45

For the first 10 weeks, he saves £1.50 each week.

Then he saves £2 each week.
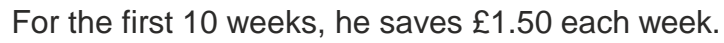
How many weeks **altogether** does it take Leo to save £65?

Show your method

weeks

2 marks

19 Complete this division.

$$\boxed{}\ 7\ \ 4\ \ r1$$
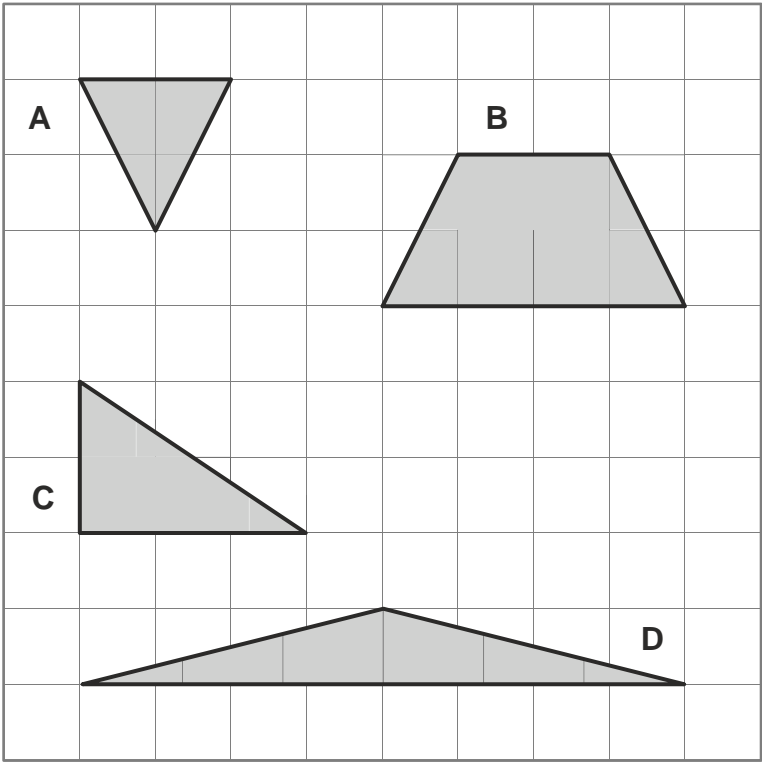
$$11\ \overline{\big)\ 5\ \ 2\ \ 1\ \boxed{}}$$

2 marks

20 Here are four shapes on a grid.

Write the letters of **all** the shapes that have **only two** obtuse angles.

_____

1 mark

21 A band holds a concert for charity.

The tickets cost £36 each.

They sell 545 tickets.

They pay £3,150 to use the hall.

They give two-thirds of the **remaining** amount to charity.

How much money does the band give to charity?

Show your method

£

3 marks

22 Margot makes jewellery using black and white beads.

She uses this rule to work out how many black beads to use.

> **black = (white × 2) + 3**

Margot uses 10 **white** beads to make a necklace.

How many black beads does she use?

1 mark

Margot uses 27 **black** beads to make a bracelet.

How many white beads does she use?
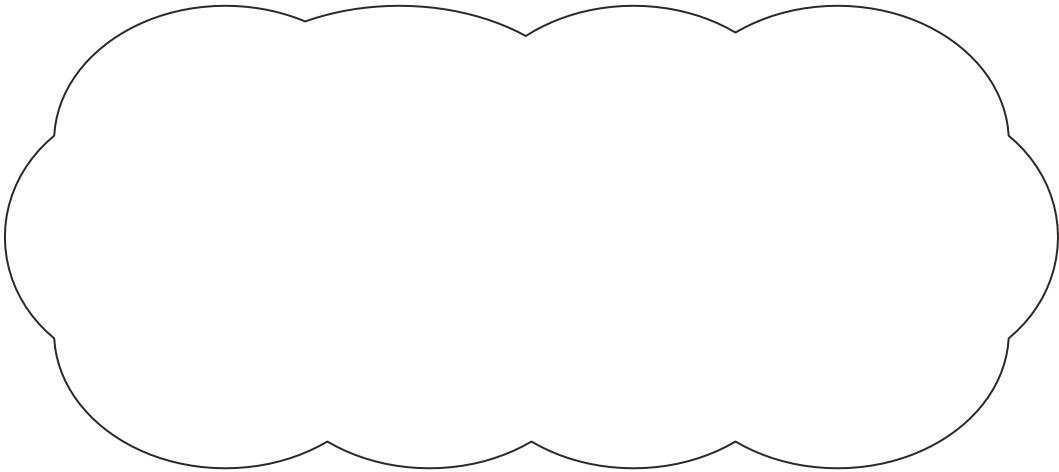
1 mark

23 Complete the table.

Name of 3-D shape	Number of Vertices
cuboid	
hexagonal prism	
Square-based pyramid	

1 mark

24 $\dfrac{1}{3} \times \dfrac{3}{4}$ is greater than the value of $\dfrac{1}{2} \times \dfrac{4}{12}$

Explain how you know.

1 mark