



KEY STAGE 2

Mathematics

Paper 2: Reasoning

Write your details clearly in the boxes below.

First name

Second name

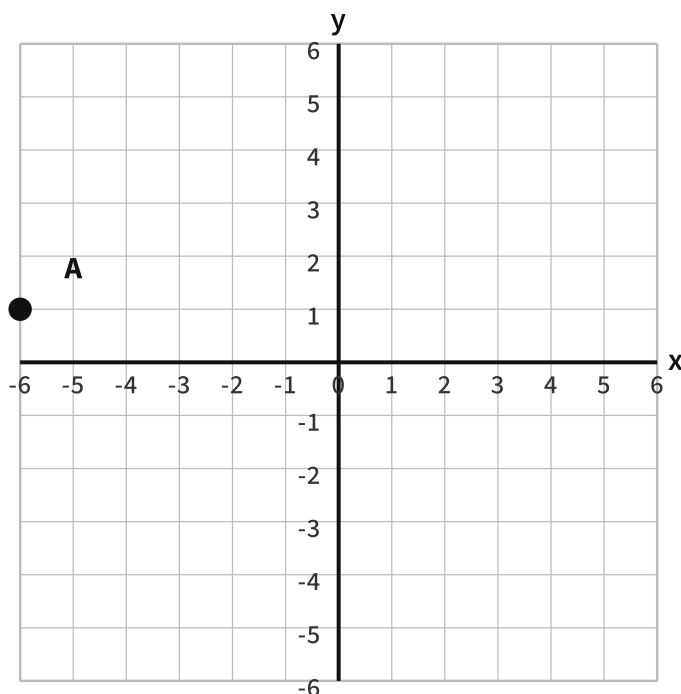
Date



1

Point A is plotted on the grid. **Reflect A in the x-axis.**

1 mark



On the grid, draw the reflected point and label it A'. In the answer space below, write the coordinates of A'.



2

How many **pairs** of parallel sides does a **rectangle** have?

1 mark

Give a number.

3

A school book drive already has **41** books donated. The target is **93** books in total.

1 mark

What is the missing number?

$$41 + ? = 93$$



4

A theatre arranges seats in **52** equal rows.

1 mark

There are **81** seats in each row.

How many **seats** are there altogether? Show your working.

5

One section of gutter is **16.9** metres long.

1 mark

What is the total length of **8** sections placed end to end? Give your answer in metres.



6

A coat costs **£100**. It is reduced by **15%** in a sale.

1 mark

How much money do you **save**? Give your answer in pounds.

7

Work out the value of $18 + 8 \times 8$.

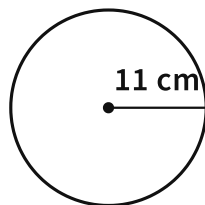
1 mark



8

The diagram shows a circle. Lengths are in centimetres.

1 mark



What is the **radius** of the circle?



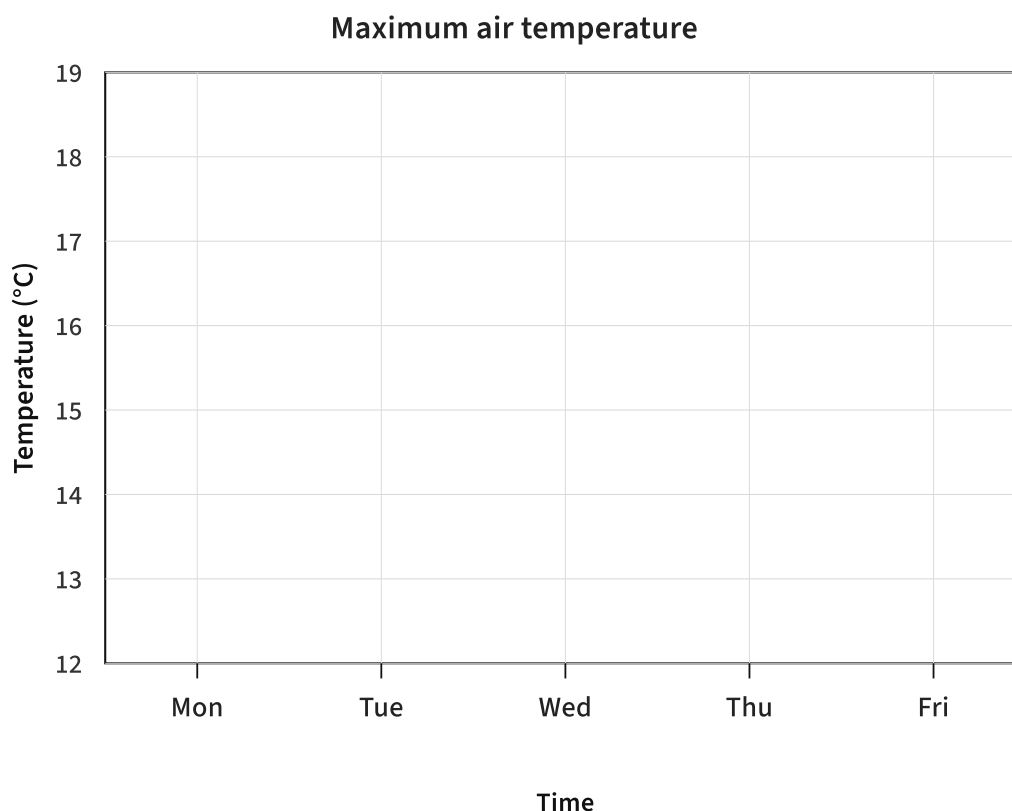
9

2 marks

A weather station recorded the **daily maximum air temperature** in degrees Celsius ($^{\circ}\text{C}$) on each weekday. On **Monday** the maximum was **14°C** . On **Tuesday** it was **17°C** . On **Wednesday** it was **14°C** . On **Thursday** it was **16°C** . On **Friday** it was **16°C** .

Day	Temperature ($^{\circ}\text{C}$)
Mon	
Tue	
Wed	
Thu	
Fri	

Complete the table. Then draw a line graph on the grid below: plot each point carefully and join the points.





10

Tickets sold for a tour totalled **347,632,538** tickets.

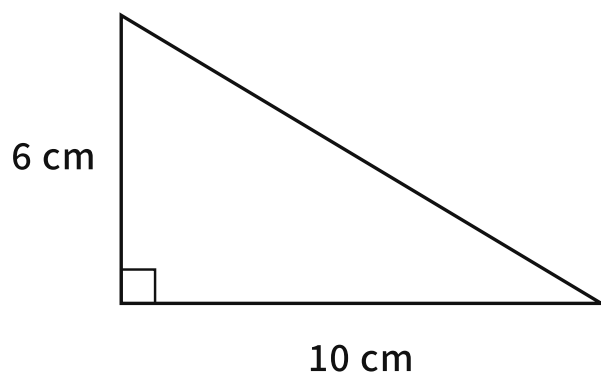
1 mark

What is the **value** of the digit **6** in this number?

11

The diagram shows a right-angled triangle. The lengths are in centimetres.

1 mark



What is the **area** of the triangle?



12

A delivery van makes **10** trips. It carries **595** identical boxes on each trip.

1 mark

How many **boxes** are delivered in total?

13

Work out

1 mark

$$\frac{7}{11} + \frac{3}{11}$$

Give your answer as a fraction in its **simplest form**.



14

Find the **lowest common multiple** (LCM) of **14** and **6**.

2 marks

15

A rectangular playground is **15 m** long and **16 m** wide.

1 mark

What is the **perimeter** of the playground?



16

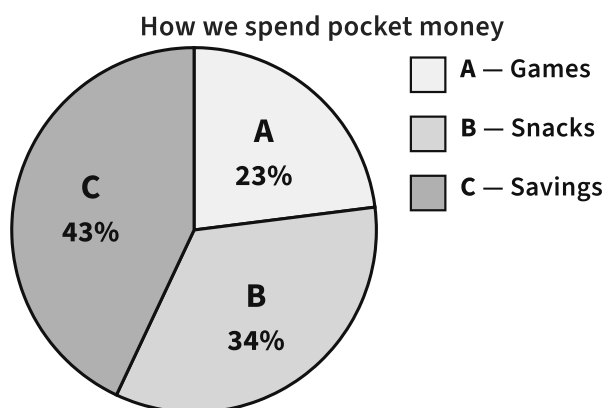
Write $\frac{4}{18}$ in its **simplest form**.

1 mark

17

A survey of **children in Year 6** recorded *how we spend pocket money*. The pie chart shows the results.

1 mark



What **percentage** chose **Games**?



18

A recipe for 2 people uses **125 g** of rice for a stew.

1 mark

How many grams of rice are needed for 8 people?

19

m and **n** are whole numbers. Zero is allowed.

2 marks

Write **all** pairs (**m**, **n**) that fit **$1m + 4n = 10$** .



20

Glue sticks cost **£8** each.

1 mark

What is the **total cost** of **7** glue sticks?

21

A stadium recorded **15,775** spectators over a season.

1 mark

Round this number to the **nearest thousand**.



22

3,042 pencils are shared equally into bags of 18.

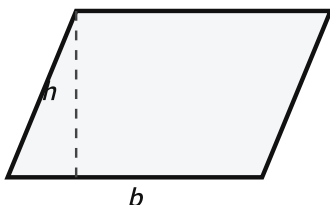
2 marks

How many **full** bags are filled? Show your working.

23

The diagram shows a parallelogram. The base is ***b*** and the perpendicular height is ***h***.

1 mark



Write a formula for the **area *A*** in terms of ***b*** and ***h***.



24

At 6 am the temperature in a playground was **-11°C**. By 2 pm it was **-6°C**.

1 mark

How many degrees Celsius **warmer** was it at 2 pm than at 6 am?

1.	(-6, -1)	1 mark
2.	2 (two pairs)	1 mark
3.	52	1 mark
4.	4,212	1 mark
5.	135.2	1 mark
6.	£15	1 mark
7.	82	1 mark
8.	11 cm	1 mark
9.	Table: Mon 14, Tue 17, Wed 14, Thu 16, Fri 16 (°C). Graph: points in order along the x-axis at those heights; line segments between neighbours.	2 marks
10.	600,000	1 mark
11.	30 cm ²	1 mark
12.	5,950	1 mark
13.	$\frac{10}{11}$	1 mark
14.	42	2 marks
15.	62 m	1 mark
16.	$\frac{2}{9}$	1 mark
17.	23%	1 mark
18.	500 g	1 mark
19.	(10, 0); (6, 1); (2, 2)	2 marks
20.	£56	1 mark
21.	16,000	1 mark
22.	169	2 marks
23.	$A = b \times h$	1 mark
24.	5°C	1 mark