

2022 national curriculum tests

Key stage 2

Mathematics

Paper 3: reasoning

MODIFIED LARGE PRINT

First name _____

Middle name _____

Last name _____

Date of birth Day _____ Month _____ Year _____

School name _____

DfE number _____

Note to markers

This paper should be marked using the standard mark schemes for KS2 Mathematics: Paper 3. There is additional guidance on marking some questions in this paper in the Key stage 2 Mathematics amendments to mark schemes – MLP document.

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, plus your additional time allowance.

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 any space on the page.

Some questions say: ‘Show your method.’

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

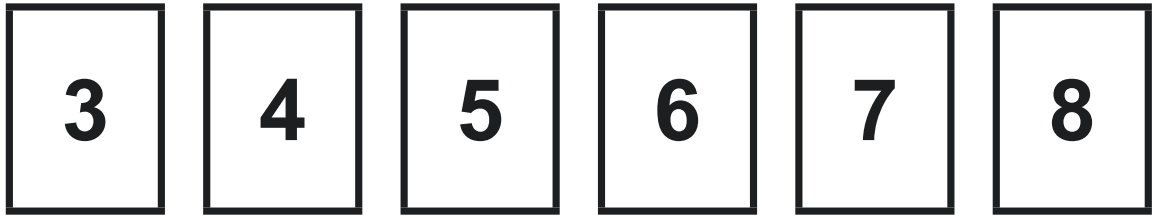
If you cannot do a question, go on to the next one. You can come back to it later, if you have time.

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

- 1. You have a model of a hexagonal prism for this question.**

How many faces does the prism have?

2. Look at the six number cards below.



Use all six cards to complete the three multiplications below.

Write a number in each box.

$$24 = \square \times \square$$

$$28 = \square \times \square$$

$$30 = \square \times \square$$

3. Olivia buys a banana, an apple and a bag of nuts.

The banana costs 30p

The apple costs 45p

The bag of nuts costs 60p

She pays with three 50p coins.

What is her change?

Show your method.

p

4. Look at the list of six decimals below.

0.3

0.5

0.8

0.03

0.25

0.75

Write the decimal from the list that is equivalent to each of the four fractions below.

$$\frac{1}{2} \underline{\hspace{10em}}$$

$$\frac{3}{10} \underline{\hspace{10em}}$$

$$\frac{3}{4} \underline{\hspace{10em}}$$

$$\frac{3}{100} \underline{\hspace{10em}}$$

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5. **Some children vote for their favourite ice-cream flavour.**

Their votes are shown in the table below.

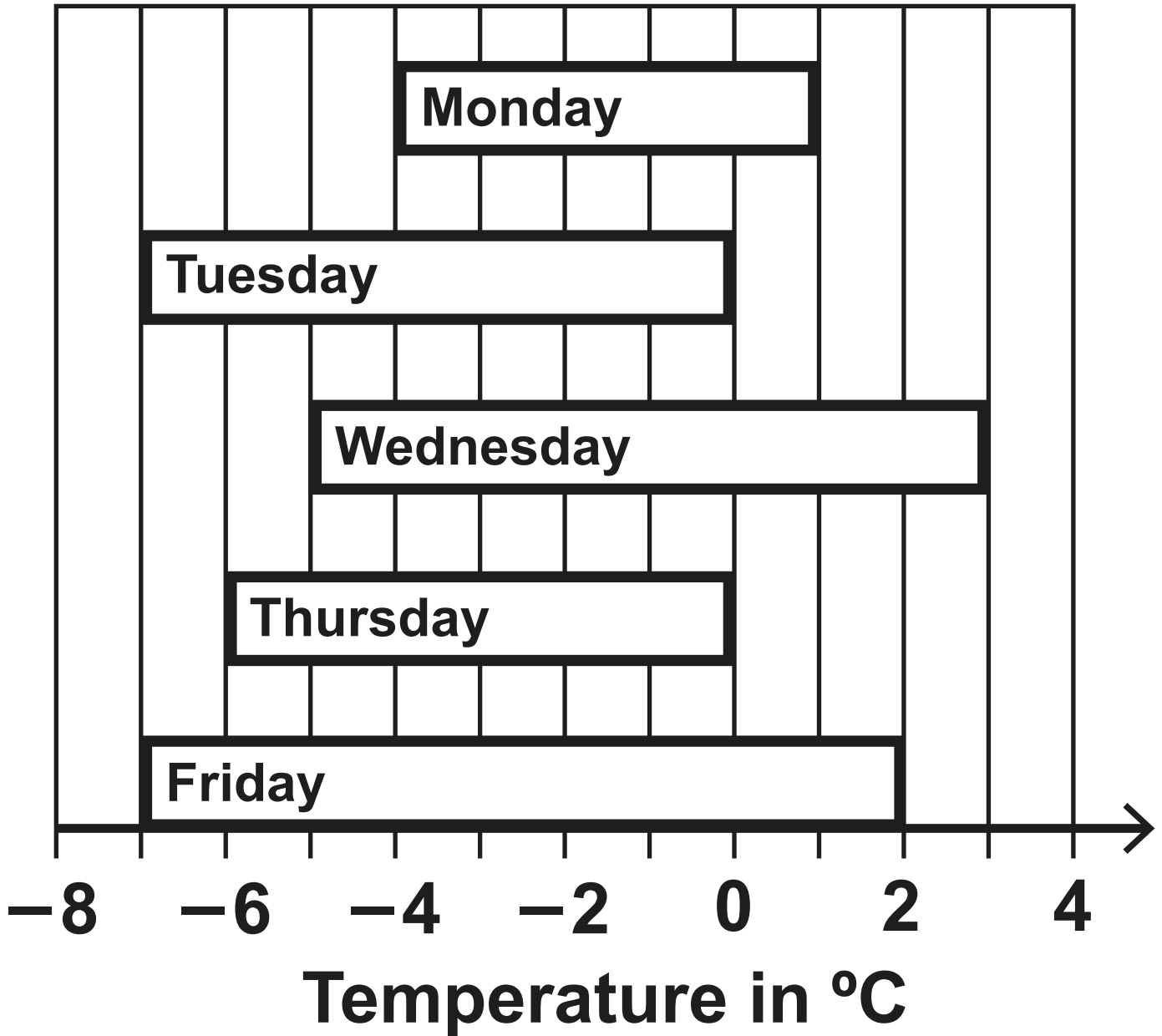
Ice-cream flavour	Number of children
vanilla	87
chocolate	154
strawberry	
mint	38
Total	402

How many children vote for strawberry?

Show your method.

_____ **children**

6. The chart below shows the range of temperatures each day during one week from Monday to Friday.



What was the lowest temperature?

_____ °C

What was the difference between the highest and lowest temperatures on Wednesday?

_____ °C

**7. One Saturday afternoon, a total of
234 869 people attended
three rugby matches.**

80 978 people attended match 1

72 319 people attended match 2

How many people attended match 3?

Show your method.

8. Round **7 546** to the nearest **1 000**

Round **7 546** to the nearest **100**

Round **7 546** to the nearest **10**

9. Look at the calculation below.

$$1\ 000 \times 416 = 10 \times$$

Write the missing number in the box.

10. Adam buys **4** pens and a ruler and pays **£4.75** altogether.

pen pen pen pen
ruler

Jack buys **2** pens and pays **£1.98** altogether.

pen pen

How much does a ruler cost?

Show your method.

11. Ally chooses a whole number.

When she multiplies her number by 4 the answer is less than 100

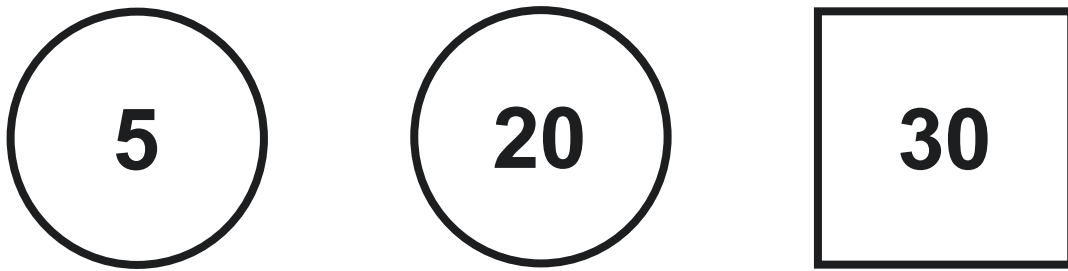
When she multiplies her number by 5 the answer is greater than 100

Write a number that Ally could have started with.

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12. Look at the diagram below.


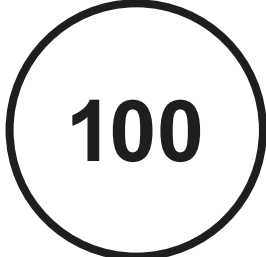
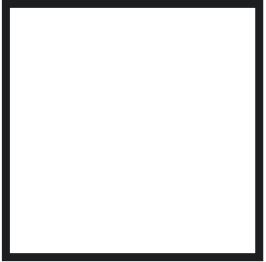


The rule for this diagram is:

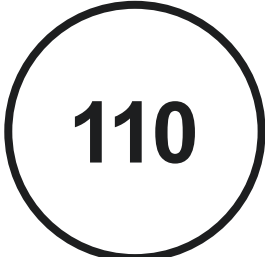
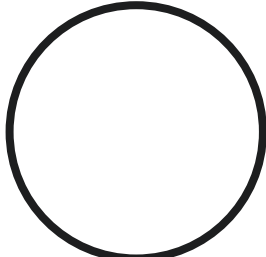

Find the difference between the numbers in the circles.

Double this to make the number in the square.

Use the same rule to write the missing numbers on the next page.

a)   

Write the missing number in the square.

b)   

Write the missing number in the circle.

13. Look at the addition below.

$$\frac{2}{3} + \boxed{\phantom{\frac{2}{3}}} = \frac{5}{6}$$

Write the missing fraction in the box.

14. Jack hires a hall for a party.

The formula below is used to work out the total cost.

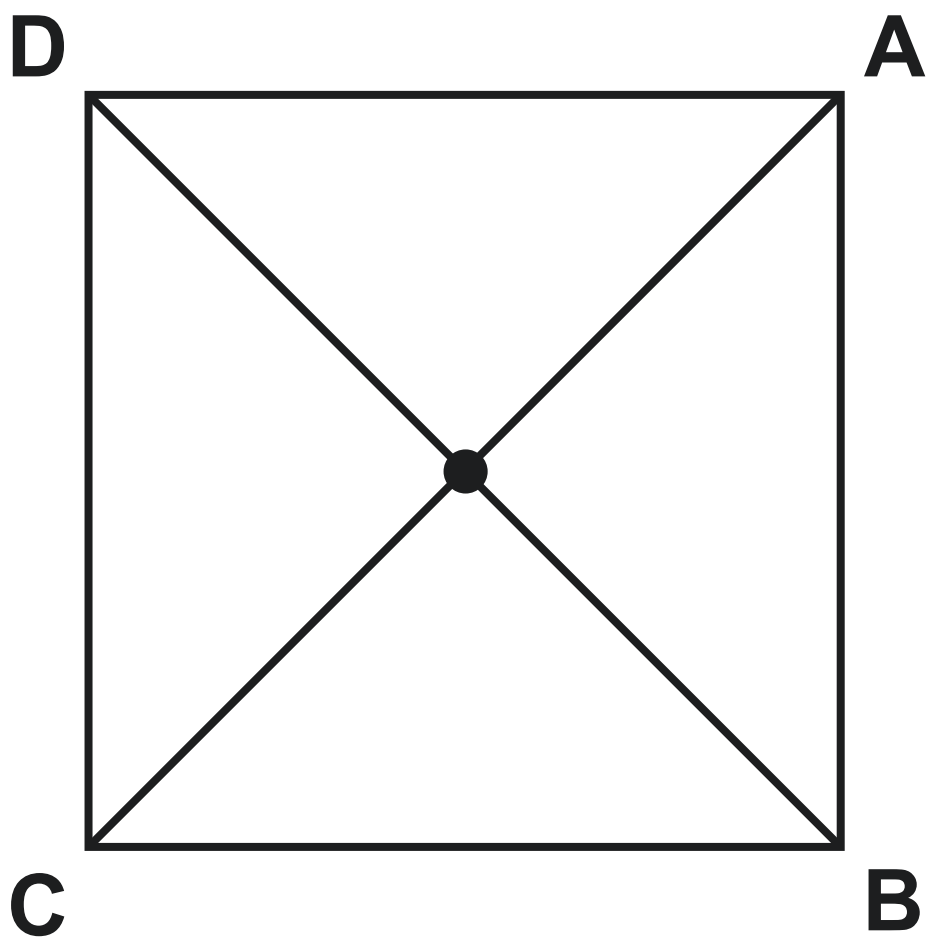
**Total cost = £15 booking fee
+ £12.50 per hour**

What is the total cost of hiring the hall from 6 pm until 11 pm?

£ _____

15. **Stefan stands in the centre of the square shown below.**

It is not actual size.



Stefan is facing towards B.

He turns anti-clockwise to face A.

What angle does Stefan turn through?

_____ degrees

Stefan is now facing towards A.

He turns 3 right angles clockwise.

Write the letter he faces after the turn.

16. Look at the line of squares below.



Now look at the five fractions below.

$$\frac{1}{4}$$

$$\frac{2}{5}$$

$$\frac{4}{10}$$

$$\frac{6}{10}$$

$$\frac{40}{100}$$

Tick or mark the fractions that represent the shaded part of the line.

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17. Kim makes a cuboid using straws.

She uses 4 straws that are 7.5 cm long.

She uses 4 straws that are 11 cm long.

She uses 4 straws that are 8.5 cm long.

What is the total length of all the straws in her cuboid?

Show your method.

_____ **cm**

18. The full price of a T-shirt is £15

In a sale the price is reduced by 30%

What is the reduced price?

Show your method.

£ _____

19. Jack says that when you square a prime number, the answer has only two factors.

Explain why Jack is *not* correct.

- 20. The table below shows how many people finished the New York Marathon in each of the first four decades it was held.**

Decade	Total number of people who finished
1st decade	24 863
2nd decade	170 932
3rd decade	282 420
4th decade	350 824

What is the mean number of people who finished the marathon per decade?

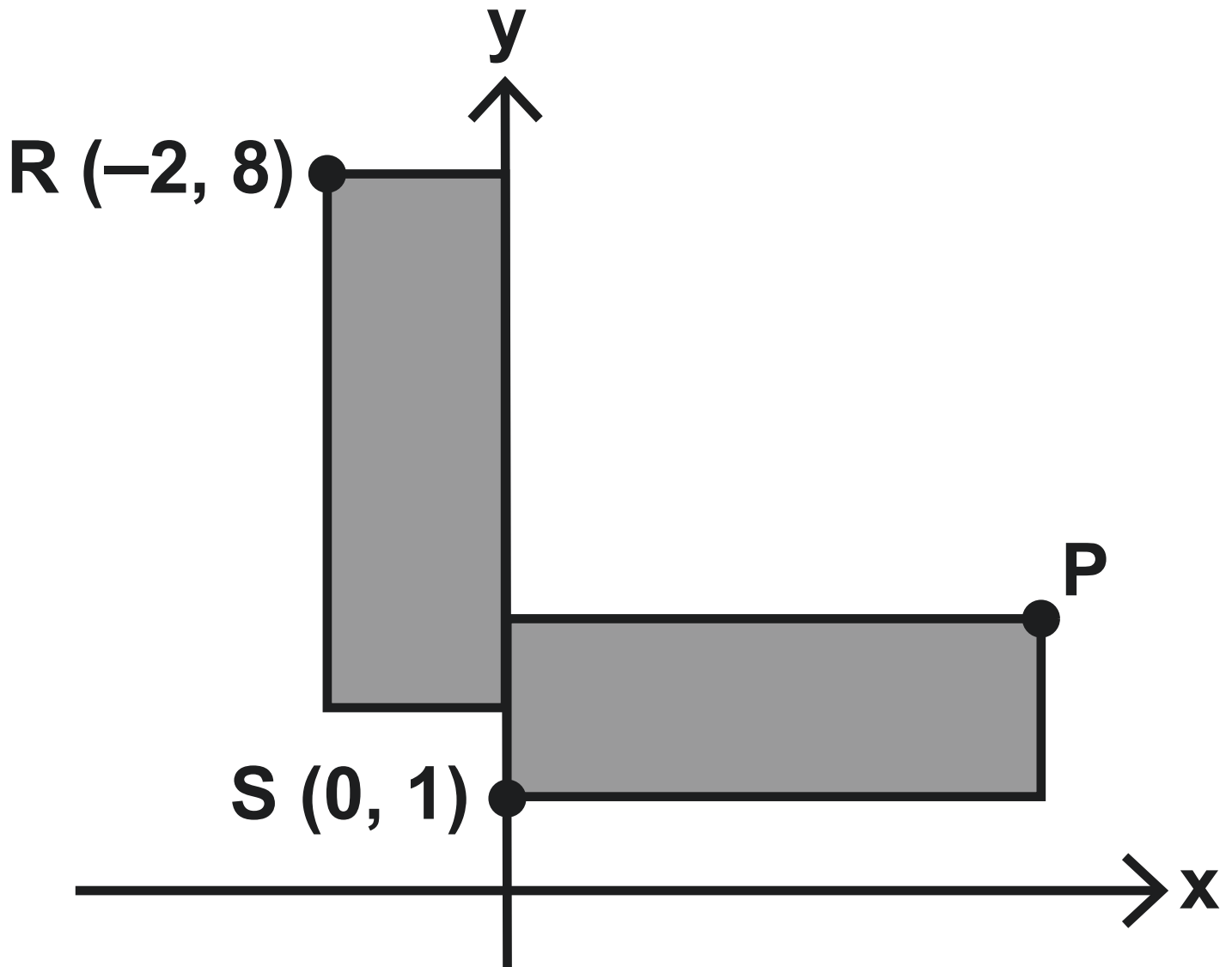
Round your answer to the nearest hundred.

Show your method.

_____ **people**

21. Look at the diagram below.

It is not to scale.



The two rectangles are identical.

The length of each rectangle is three times its width.

The point **R has coordinates $(-2, 8)$**

The point **S has coordinates $(0, 1)$**

What are the coordinates of point **P?**

(,)

End of test



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2022 key stage 2 mathematics
Modified large print Paper 3: reasoning

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