Cambridge Lower Secondary Progression Test

Mathematics paper 1

Stage 7

55 minutes

For Teacher's Use	
Page	**Mark**
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Total	

Name ………………………………………………….……………………

Additional materials: Geometrical instruments
Tracing paper (optional)

READ THESE INSTRUCTIONS FIRST

Answer **all** questions in the spaces provided on the question paper.
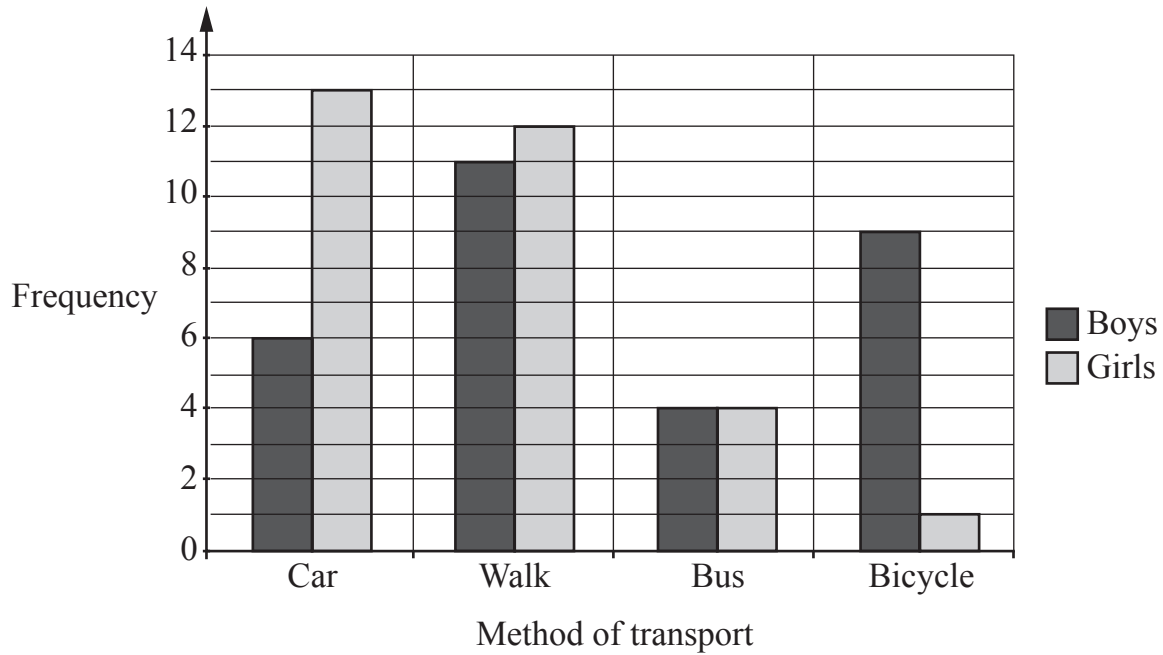
Calculators are **not** allowed.

You should show all your working on the question paper.

The number of marks is given in brackets [ ] at the end of each question or part question.

The total number of marks for this paper is 45.

1 Safia asks 30 boys and 30 girls how they travel to school.
The bar chart shows her results.

(a) Write down the modal method of transport for boys.

.... [1]

(b) Tick (✓) to show whether each of these statements is true or false.

	True	False
12 girls walk to school.	☐	☐
More girls than boys travel to school by car.	☐	☐
The same number of boys and girls travel to school by bus.	☐	☐
For all 60 students the least common method of transport is bicycle.	☐	☐

[2]

2 Two of the values in this list are equal to $\frac{1}{4}$

Draw a ring around each one.

$$1.4 \qquad 0.4 \qquad 25\% \qquad 40\% \qquad 0.25 \qquad 4\%$$

[1]

3 (a) Work out 2.05×1000

.... [1]

(b) Write the missing number in the box.

$$4.6 \div \boxed{} = 0.046$$

[1]

4 Calculate $3 - (5 - 4) + 2 \times 4$

.... [1]

5 Complete the boxes to show equivalent fractions.

$$\frac{3}{5} = \frac{\boxed{}}{10} = \frac{9}{\boxed{}}$$

[1]

6 Work out 15% of $700

$.. [1]

7   Pierre has a chocolate bar with a mass of 80 g.

He eats $\frac{1}{5}$ of the bar.

Work out the mass of the chocolate that is left.

.... g [1]

8   Write the missing digits in the boxes to make this statement correct.

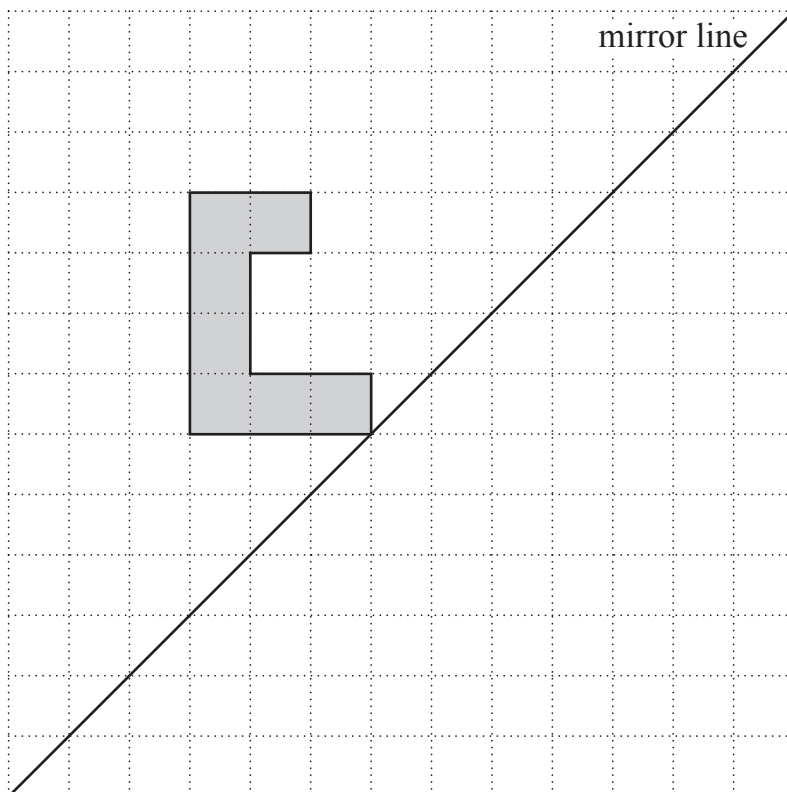One quarter of [ ] 2 [ ] is 1 [ ]

[1]

9   The diagram shows a shape drawn on a square grid.

Draw the reflection of the shape in the mirror line.   [1]
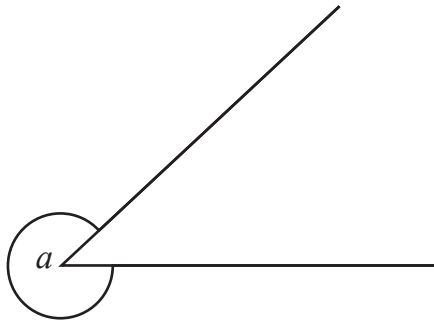
10 Draw a ring around each number that divides exactly into 120

<div align="center">3   8   9   10   100</div>

[1]

11 The diagram shows angle *a*.

(a) Tick (✓) the correct description of angle *a*.

Acute ☐

Right ☐

Obtuse ☐

Reflex ☐

[1]

(b) Measure accurately the size of angle *a*.

$a =$ ....° [1]

M/S7/01   **[Turn over**

12 Work out.

(a) 0.9×3

.... [1]

(b) $9 - 3.24$

.... [1]

13 Angelique is making a sequence of patterns using cubes.
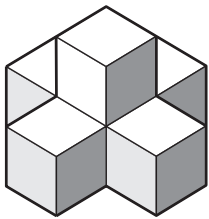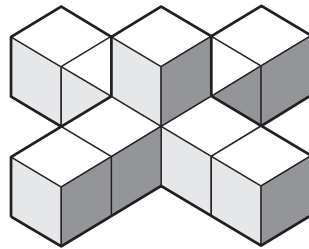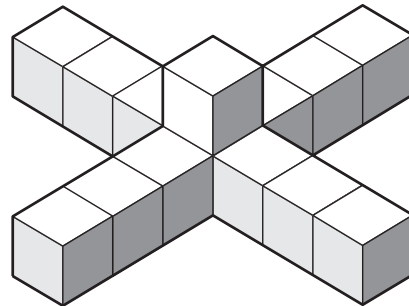
| **Pattern 1** | **Pattern 2** | **Pattern 3** |
| 6 cubes | 10 cubes | 14 cubes |

(a) Work out the number of cubes needed for Pattern 4

.... [1]

(b) Write a number to complete this description of Angelique's patterns.

The number of cubes is always .... more than a multiple of 4

[1]

(c) Work out the number of cubes needed for Pattern 100

.... [1]

14 The table shows the midday temperature, in °C, for one week.

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
−3	0	4	−1	−2	2	

(a) The temperature on Sunday was 3 °C colder than on Saturday.

Complete the table. [1]

(b) Write down the difference between the temperatures on Monday and Wednesday.

....°C [1]

(c) At midday on Friday the temperature was −2 °C.
Later on the temperature was 3 °C.

Find the increase in temperature.

....°C [1]

15 Work out.

$$\frac{8}{9} - \frac{2}{3}$$

.... [2]

16 The table shows the number of men, women and children watching a film at a cinema.

Men	Women	Children
8	18	24

(a) Work out the percentage of the people that are women.

....% [2]

(b) Write the ratio of men to children in its simplest form.

.... [2]

17 Work out.

$$143 \div 20$$

.... [1]

18 Complete the following.

$0.094 \, \text{km} \; = \;$ .... m

$1255 \, \text{m}l \; = \;$ l

.... tonnes $\; = \; 465 \, \text{kg}$

[2]

19 Write 0.225 as a fraction.
Give your answer in its simplest form.

.... [2]

20 Two squares are put together to make a rectangle.
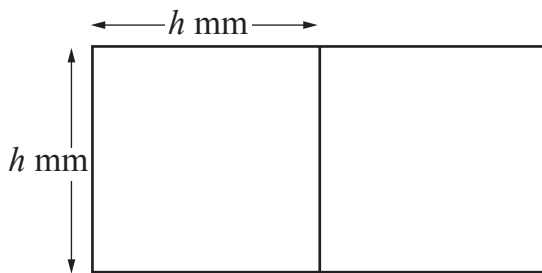
NOT TO SCALE

The sides of each square are h mm long.
The perimeter of the rectangle is P mm.

(a) Explain why $P = 6h$

....

.... [1]

(b) Work out the value of h when P is 120

$h =$ .... [1]

21 (a) A bag contains 11 green apples and 9 red apples.
Mike picks an apple out of the bag at random.

Write down the probability that he picks a red apple.

.... [1]

(b) Mia also has some red and green apples in a different bag.
The probability that she picks out a red apple is $\dfrac{7}{10}$

Write down possible values for the number of red and green apples in Mia's bag.

.... red apples and .... green apples [1]

22 Complete these calculations.

(a) $35 \times 17 = 17 \times 5 \times$ .... [1]

(b) $86 \times 19 = (86 \times$ .... $) - (86 \times 1)$ [1]

23 Write the fraction $\dfrac{143}{55}$ as a mixed number in its simplest form.

.... [2]

24 Jamila has a rectangular piece of garden measuring 1m by 1.5m.
She wants to cover it with square slabs that are 0.5m along each side.
One slab costs $2.35

Work out the total cost of the slabs for this piece of garden.

$ .... [3]

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