Cambridge Secondary 1 Progression Test
Question paper

Cambridge Secondary 1

55 minutes

Mathematics Paper 1

Stage 7

4034932122

Name .....

Additional materials: Ruler
Tracing paper
Protractor

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.

For Teacher's Use	
Page	**Mark**
1	
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Total	

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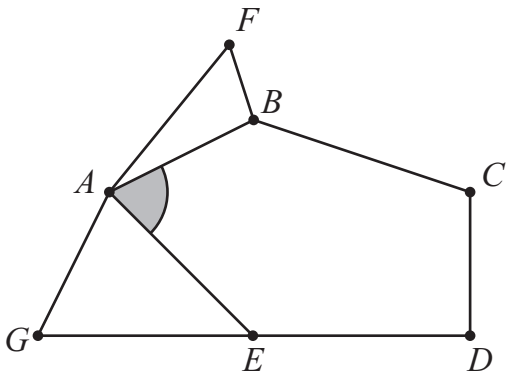
1 Round 23.649 to one decimal place.

..... [1]

2 Here is a diagram using the points A to G.



(a) Put a ring around the best label for the shaded angle.

BAF *GAF* *A* *EAB* *BAG*

[1]

(b) What is the name of the polygon *ABCDE*?

..... [1]

3 Here are the first five numbers in a sequence.

29 24 19 14 9

Write down the term-to-term rule for this sequence.

..... [1]

4 Calculate.

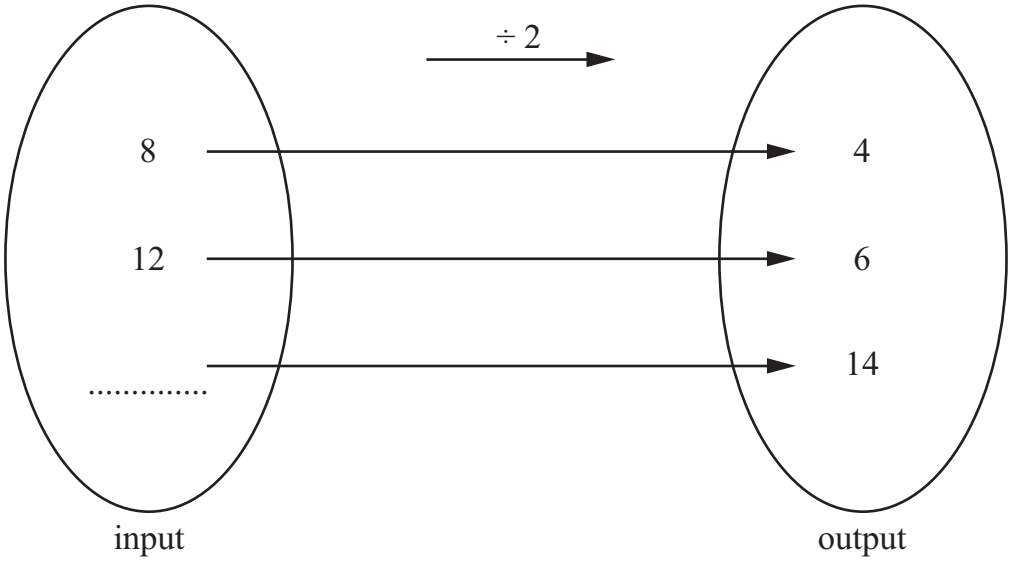
(a) $25.2 \div 4$

..... [1]

(b) 12.7×6

..... [1]

5 Here is a mapping diagram showing the function 'divide by 2'.



Complete the diagram by filling in the missing input. [1]

6 Draw lines to join each calculation to the correct answer.

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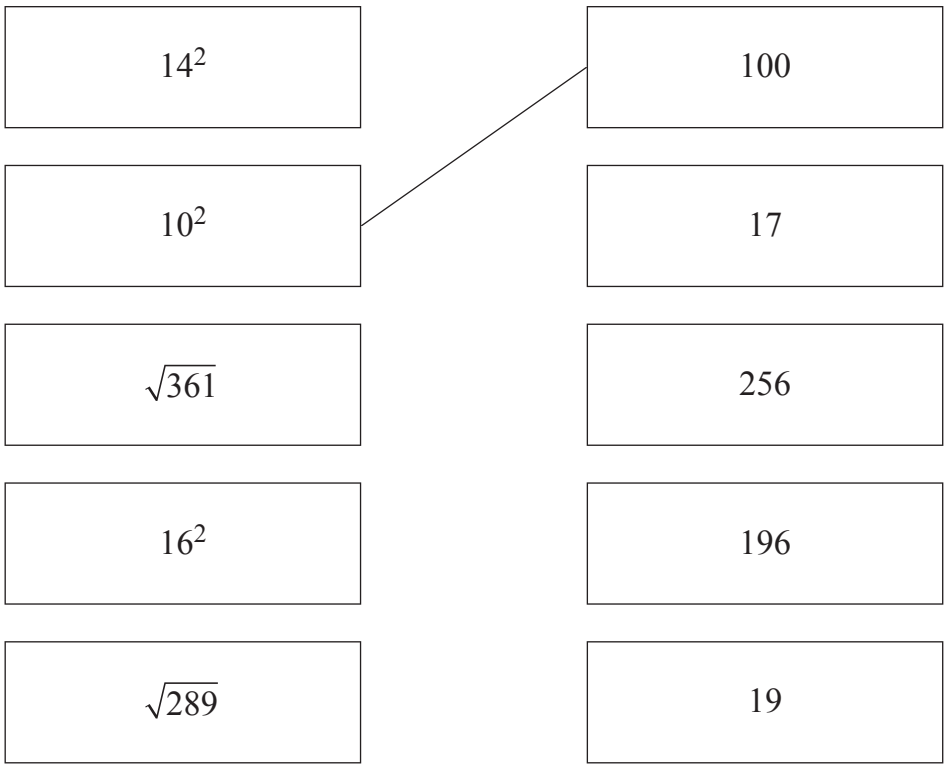
One has been done for you.



[1]

7 Athena uses a 'sieve' to find prime numbers.

Here are **some** of the instructions.

- Cross out the number 1
- Put a ring around the number 2 and then cross out all other multiples of 2

Put a ring around **all** the other prime numbers up to 30

~~1~~	(2)	3	~~4~~	5	~~6~~	7	~~8~~	9	~~10~~
11	~~12~~	13	~~14~~	15	~~16~~	17	~~18~~	19	~~20~~
21	~~22~~	23	~~24~~	25	~~26~~	27	~~28~~	29	~~30~~

[2]

8 Work out.

(a) 7.4×100

..... [1]

(b) $48.3 \div 1000$

..... [1]

9 Tick (✓) the correct statements.

23.4 cm = 234 mm	☐
500 m*l* = 5 *l*	☐
1.453 m = 1 m 45 cm 3 mm	☐

[1]

10 Triangle ABC has side lengths $AB = 5$ cm and $AC = 9$ cm.
Angle BAC is 51°.

Use a ruler and protractor to draw this triangle accurately.

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[2]

11 Three numbers in each list are equivalent.
Put a ring around the number in each list that is **not** equivalent to the others.

The first one has been done for you.

	$\frac{1}{2}$	(0.7)	50%	$\frac{2}{4}$
(a)	$\frac{1}{5}$	0.2	2%	$\frac{2}{10}$
(b)	$\frac{3}{4}$	3.4	75%	$\frac{75}{100}$

[1]

[1]

12 Hassan asks some children in his school to name their favourite sport.
He shows his results on a pictogram.

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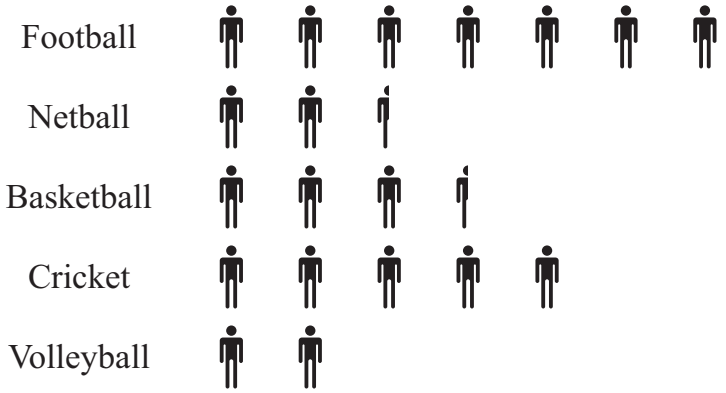

Key: = ... children

(a) 50 children choose cricket as their favourite sport.
Use this information to complete the key on the pictogram.

[1]

(b) How many more children choose football than basketball?

..... [1]

(c) What fraction of the children choose cricket?

..... [1]

13 Hamish writes this working:

$$\frac{2}{5} \times 3 = \frac{6}{15}$$

Is Hamish correct? Tick (✓) a box.

Yes ☐ No ☐

Explain your answer.

.....

..... [1]

14 Write 0.36 as a fraction.
Simplify the fraction to its lowest terms.

..... [2]

15 Simplify

$3x + 2y - x + 4y$

..... [1]

16 Write down the common factors of 18 and 21

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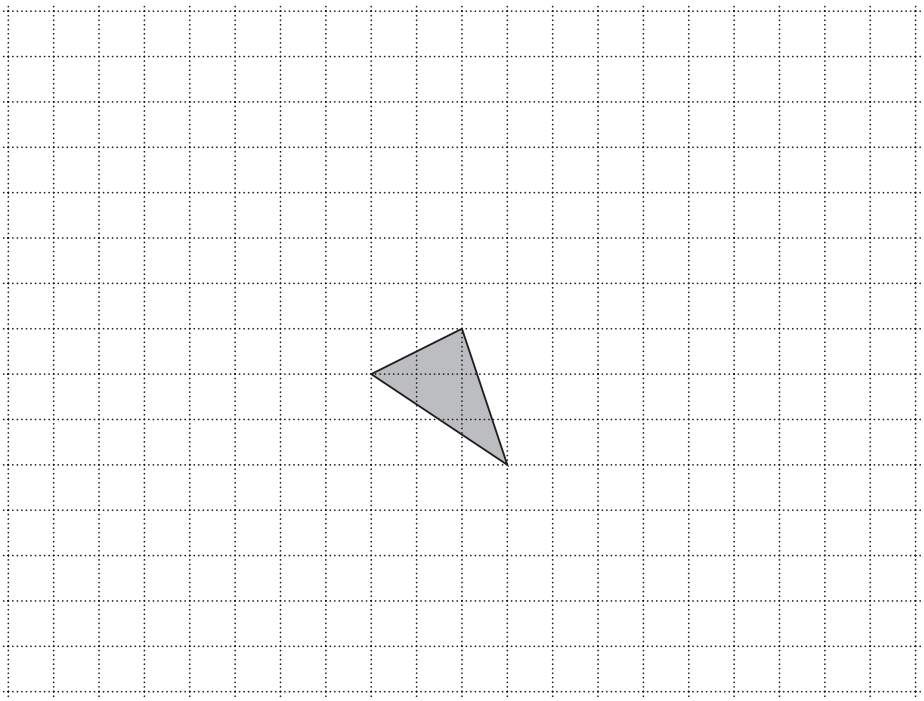
..... [1]

17 Look at the triangle drawn on the grid.

Translate this triangle 3 squares left and 4 squares up.



[1]

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18 The table shows some information about divisibility.

Number	Divisible by 6	Divisible by 8	Divisible by 9
24	✓	✓	✗
45			
84			
360			

Complete the table using ticks (✓) and crosses (✗).

The first row has been done for you. [2]

19 Solve $3x + 8 = 23$

$x =$ ..... [1]

20 Here is a number pyramid.

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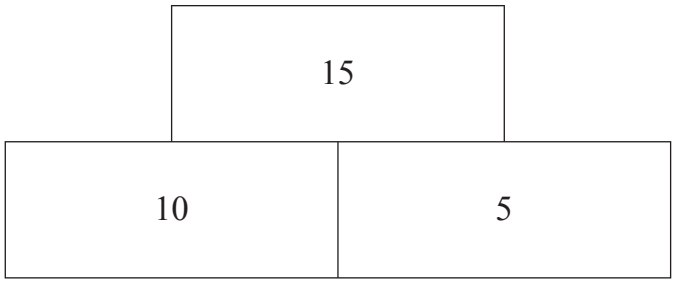


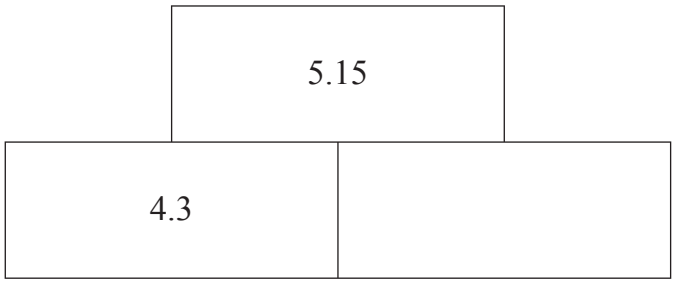
The numbers in the bottom two boxes add together to make the number in the top box.

Complete these pyramids by filling in the missing boxes.

(a)

[1]

(b)



[1]

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21 **(a)** Write brackets in the calculation to make it correct.

$$9 + 12 \div 3 - 1 = 15$$

[1]

(b) Yannis works out the answer to $20 - 2 \times 3 + 5$
Here is his working.

$20 - 2 \times 3 + 5$
$= 20 - 6 + 5$
$= 20 - 11$
$= 9$

Is Yannis' work correct? Tick (✓) a box.

Yes ☐ No ☐

Explain your answer.

.....

..... [1]

22 Look at this flight timetable.

Depart: Bogota, Colombia	**Arrive:** Washington DC, USA
16 20	02 10
18 50	04 35
23 40	09 10

(a) Write the time 16 20 in 12-hour clock time.

..... [1]

(b) How long is the 18 50 flight from Bogota to Washington DC?
Give your answer in hours and minutes.

..... hours ..... minutes [1]

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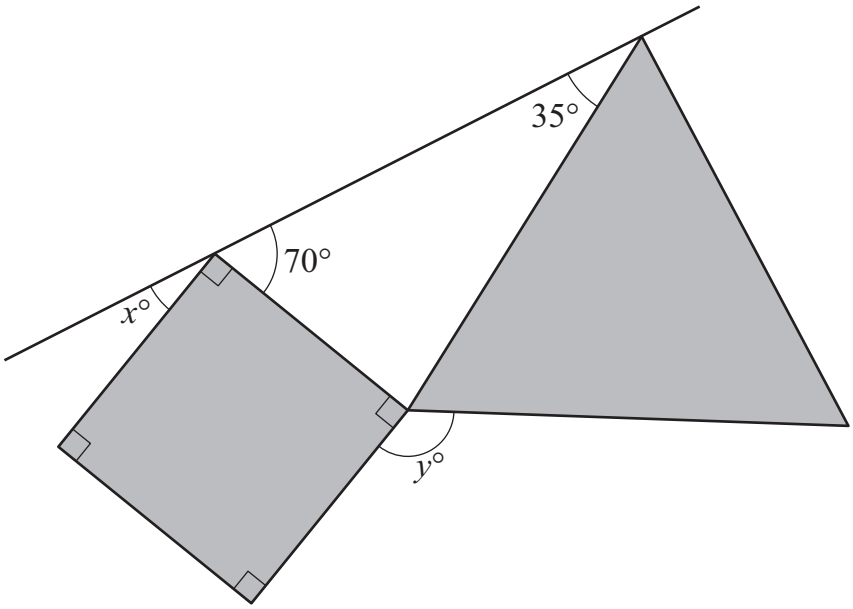
23 The diagram shows a shaded equilateral triangle and a shaded square touching a straight line.



NOT TO SCALE

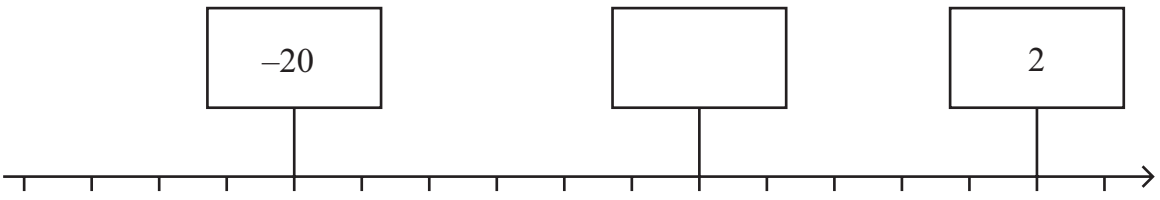
(a) Work out angle x.

$x =$ ..... ° [1]

(b) Work out angle y.

$y =$ ..... ° [2]

24 Write the missing number in the box on this number line.



[1]

25 Multiply out the brackets.

$7(2x - 5)$

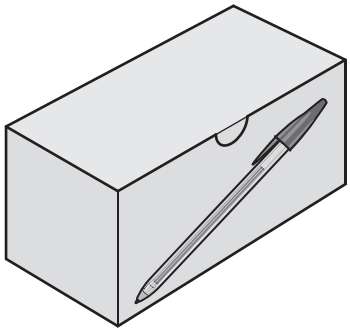
..... [1]

26 **(a)** Write the number in the box to make this fraction sum correct.

$$\frac{1}{3} + \frac{\square}{6} = 1$$

[1]

(b) Here is a box of pens.



Razi and Mariah each take some of the pens.

$\frac{3}{10}$ of the pens are left in the box.

Razi takes $\frac{1}{5}$ of the pens.

What fraction of the box of pens does Mariah take?

..... [1]

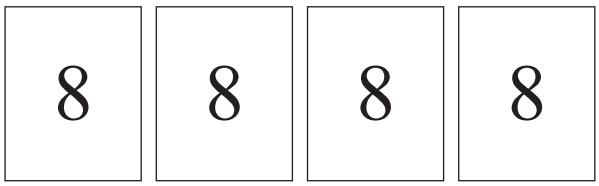
For Teacher's Use

27 Write these measurements in order from smallest to largest.

40 kg 0.2 t 5000 g 320 kg

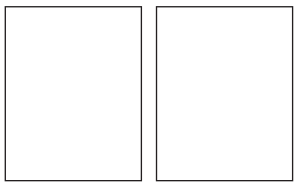
.... [1]
smallest largest

28 Neyha has six number cards.
Here are four of Neyha's cards.



The mean of all six cards is 8
The range of all six cards is 4

What are the other two cards?



[2]

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