Surname	Centre Number	Candidate Number
First name(s)		0

GCSE

3300U20-1

S25-3300U20-1

WEDNESDAY, 11 JUNE 2025 – MORNING

MATHEMATICS
UNIT 2: CALCULATOR-ALLOWED
FOUNDATION TIER

1 hour 30 minutes

ADDITIONAL MATERIALS

A calculator will be required for this examination.

A ruler, protractor and a pair of compasses may be required.

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen. Do not use gel pen or correction fluid.

You may use a pencil for graphs and diagrams only.

Write your name, centre number and candidate number in the spaces at the top of this page.

Answer **all** the questions in the spaces provided.

If you run out of space, use the additional page at the back of the booklet. Question numbers must be given for all work written on the additional page.

Take π as 3·14 or use the π button on your calculator.

INFORMATION FOR CANDIDATES

You should give details of your method of solution when appropriate.

Unless stated, diagrams are not drawn to scale.

Scale drawing solutions will not be acceptable where you are asked to calculate.

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

In question **3**, the assessment will take into account the quality of your linguistic and mathematical organisation, communication and accuracy in writing.

For Examiner's use only		
Question	**Maximum Mark**	**Mark Awarded**
1.	**6**	
2.	**2**	
3.	**5**	
4.	**4**	
5.	**2**	
6.	**3**	
7.	**4**	
8.	**2**	
9.	**5**	
10.	**3**	
11.	**3**	
12.	**3**	
13.	**3**	
14.	**5**	
15.	**5**	
16.	**3**	
17.	**4**	
18.	**3**	
Total	**65**	

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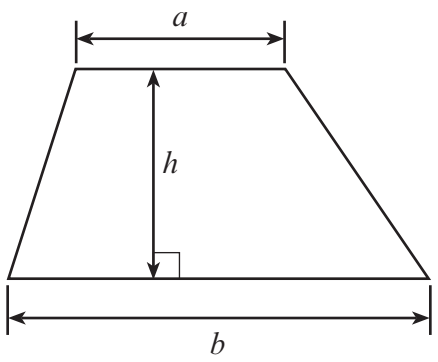
Formula List – Foundation Tier

Area of trapezium $= \frac{1}{2}(a + b)h$



Examiner only

1. (a) What is four times three hundred and seventy-two?
Write your answer in figures. [1]

.....

(b) Write 1·52 in words. [1]

.....

(c) Insert one pair of brackets into the calculation below to make it correct. [1]

$$4 \times 7 + 3 - 1 = 39$$

(d) Write the following numbers in ascending order. [1]

3·2, –4, 3·09, –1

....
Lowest ⟶ Highest

(e) Write down the first three multiples of 67. [1]

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(f) A number has exactly six factors.
Its factors are 1, 2, 5, 10, 25 and the number itself.
What is the number? [1]

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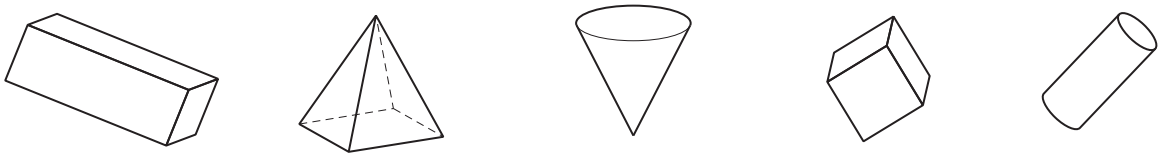
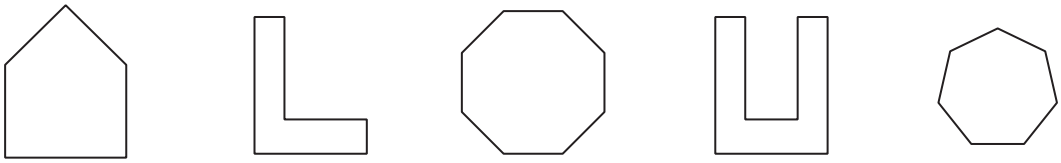
Turn over.

Examiner only

2. (a) The special name for one of the 3D shapes below is a cylinder.
Circle the cylinder. [1]



(b) The special name for one of the polygons below is a hexagon.
Circle the hexagon. [1]



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3. *In this question, you will be assessed on the quality of your organisation, communication and accuracy in writing.*

A square and an equilateral triangle are shown below.

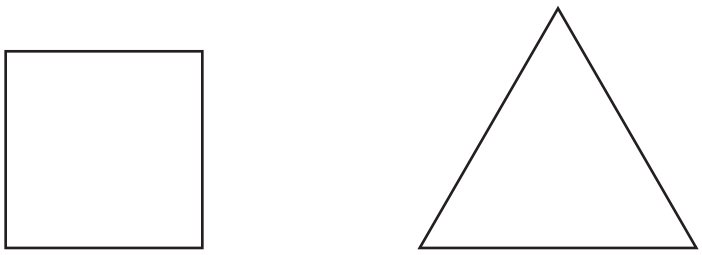

Diagram not drawn to scale

The length of a side of the square is 12 cm.
The perimeter of the square is **equal to** the perimeter of the equilateral triangle.

Calculate the length of a side of the equilateral triangle.
You must show all your working. [3 + 2 OCW]

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4. (a) Write the next term in the sequence below. [1]

4, 28, 52, 76, ...

(b) Draw Diagram **1** in the sequence below. [1]

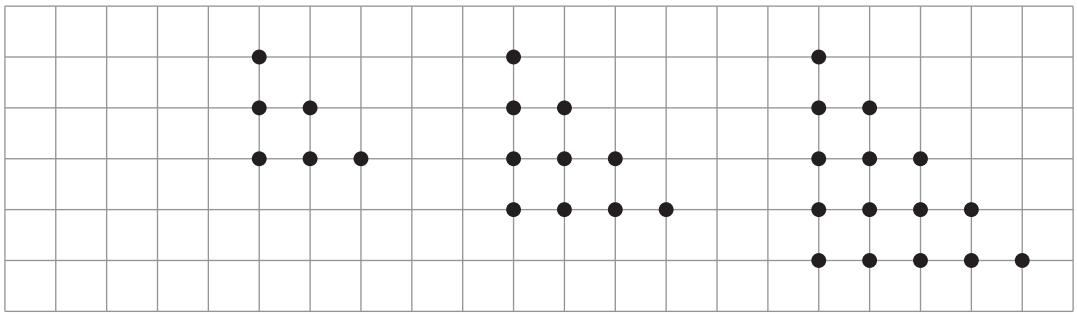

Diagram **1** Diagram **2** Diagram **3** Diagram **4**

(c) The sequence of numbers shown below is linear.

31, ... , ... , 16, 11

Two of the numbers are missing.

Fill in the missing numbers in the sequence.

Write down the rule for finding the next term in the sequence. [2]

Rule: .....

.....

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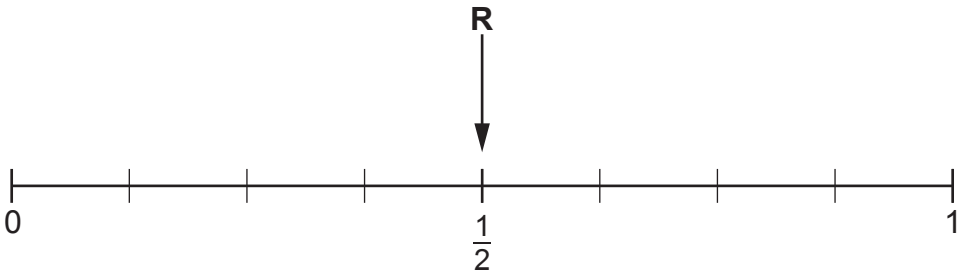
5. Darren has a bag containing red counters, yellow counters and green counters.
Altogether, there are 8 counters in the bag.

Darren chooses a counter from the bag at random.

On the probability scale below, **R** shows the probability that Darren chooses a red counter.



There is 1 yellow counter in the bag.

(a) On the probability scale, mark with a **Y** the probability that Darren chooses a yellow counter. [1]

(b) On the probability scale, mark with a **G** the probability that Darren chooses a green counter. [1]

6. A fifth number is added to the list below.

13 18 4 17

When the fifth number is added to the list, the range increases by 3.

Write down the **two** possible values for the fifth number.
You must show all your working. [3]

The two possible values are ..... and .....

Turn over.

Examiner only

7. Find the value of each of the following.

(a) $\dfrac{223 \times 15^2}{130}$

Write your answer correct to the nearest 10. [2]

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(b) $\sqrt{14-9}+4$

Write your answer correct to 1 decimal place. [2]

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8. Ffion thinks of a number.
She multiplies this number by 8.
Ffion then adds 34 to her answer to get 170.

What number did Ffion think of?
You must show all your working. [2]

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Examiner only

9. Find the value of each of the following.

(a) $\frac{3}{4}$ of 122 [2]

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(b) 60% of 315 [2]

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.....

(c) 3^5 [1]

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Turn over.

Examiner only

10. Using **only** the numbers listed below,

120 121 122 123 124 125 126

write down

(a) a square number, [1]

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(b) a cube number, [1]

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(c) a multiple of 14. [1]

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11. Use the formula $18x + 5y = t$ to find the value of y when x = 2·5 and t = 60. [3]

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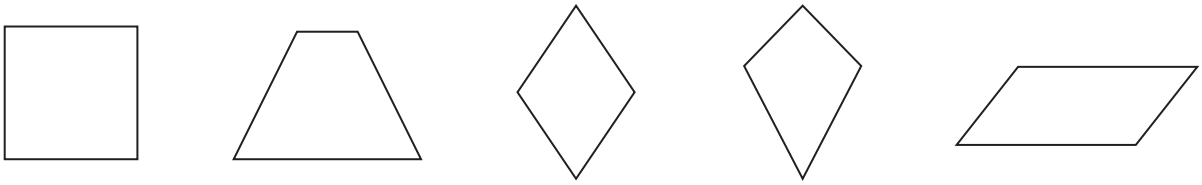
12. (a) Which **one** of the following quadrilaterals has
- rotational symmetry of order 2, **and**
- 2 lines of symmetry?

Circle the correct shape. [1]



Square Trapezium Rhombus Kite Parallelogram

(b) A cuboid measures 8 cm by 13 cm by 7 cm.
Calculate the volume of the cuboid. [2]

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Volume = ... cm^3

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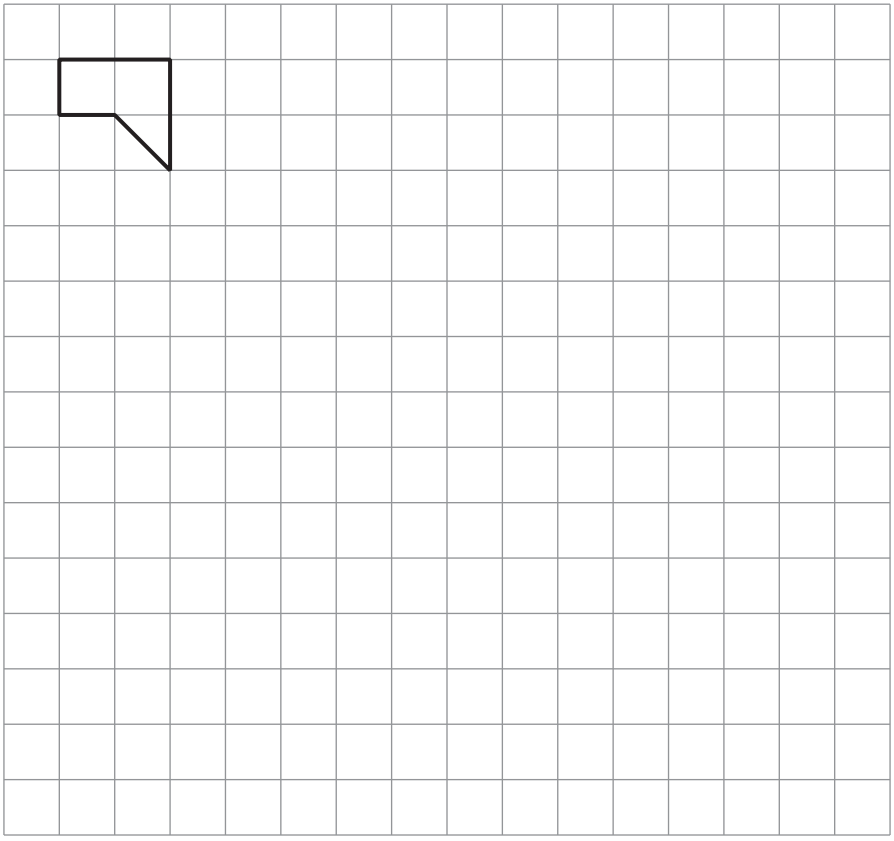
13. (a) Enlarge the shape below by a scale factor of 4. [2]



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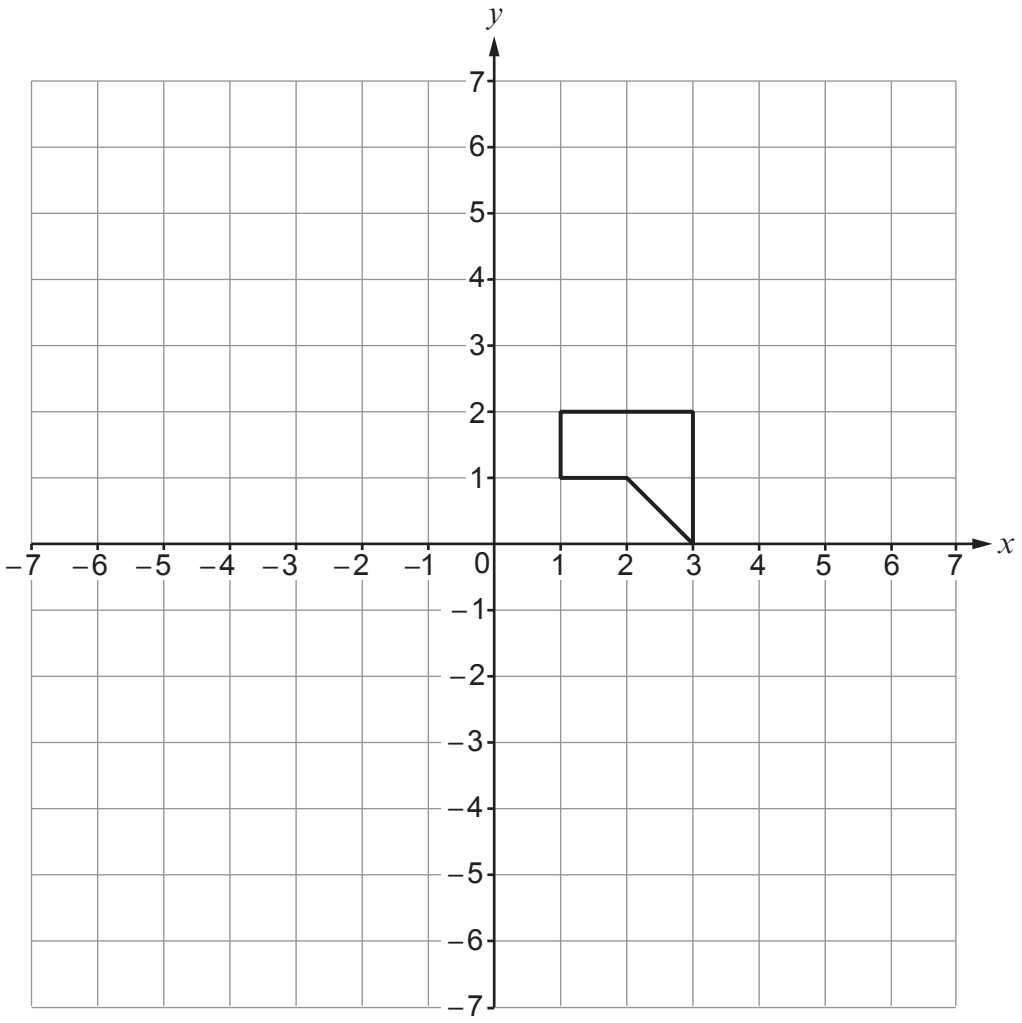
(b) Translate the shape below 3 squares to the right and 5 squares down. [1]



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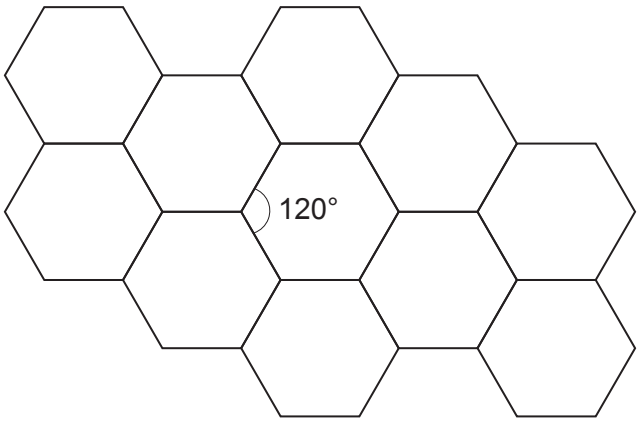
14. (a) The diagram below shows some tiles in part of a tessellation.
The tiles are all identical regular hexagons.
Each of the interior angles is 120°.



Explain why the tiles tessellate.
You must give a reason, based on angle facts, for your answer. [1]

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(b) Explain why tiles that are identical **regular pentagons** will not tessellate.
You must show working to support your explanation. [4]

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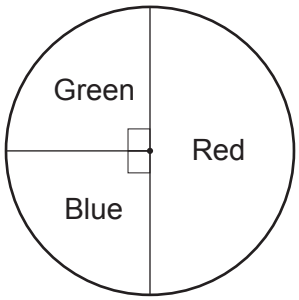
Examiner only

15. Two groups of people, Group A and Group B, took part in Adam's survey.
Adam asked each person this question:

"From the colours Red, Blue and Green, which is your favourite colour?"

There are 92 people in Group A.
The results for Group A are shown in the pie chart below.

Group A



The results for Group B are shown in the pictogram below.

Group B

Red	⊞ ⊞
Green	⊞ □
Blue	⊟

Key: ⊞ represents 16 people

Adam chose one person at random from all the people in both groups.
What is the probability that this person chose **Green**? [5]

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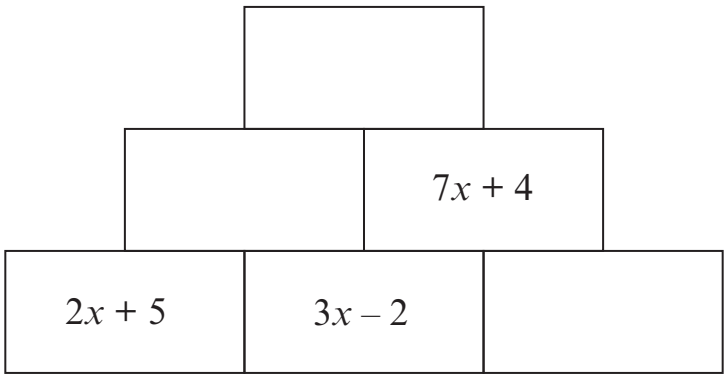
16.



In the diagram above, the expression in each block in the top two rows is found by using the following rule:

The expression in any block is the sum of the expressions in the two blocks below it.

Some expressions are already shown.
Use the rule to fill in the empty blocks in the diagram.
You must simplify your answers. [3]

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17. The diagram below shows a sketch of a circle that fits exactly inside a square.

The radius of the circle is 5 cm.

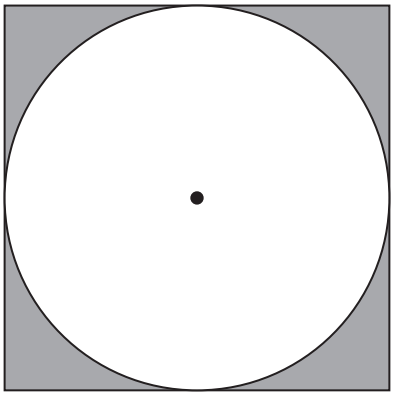

Diagram not drawn to scale

Calculate the total area of the shaded regions.
Give your answer as a decimal.
You must show all your working. [4]

Total area of the shaded regions = ...

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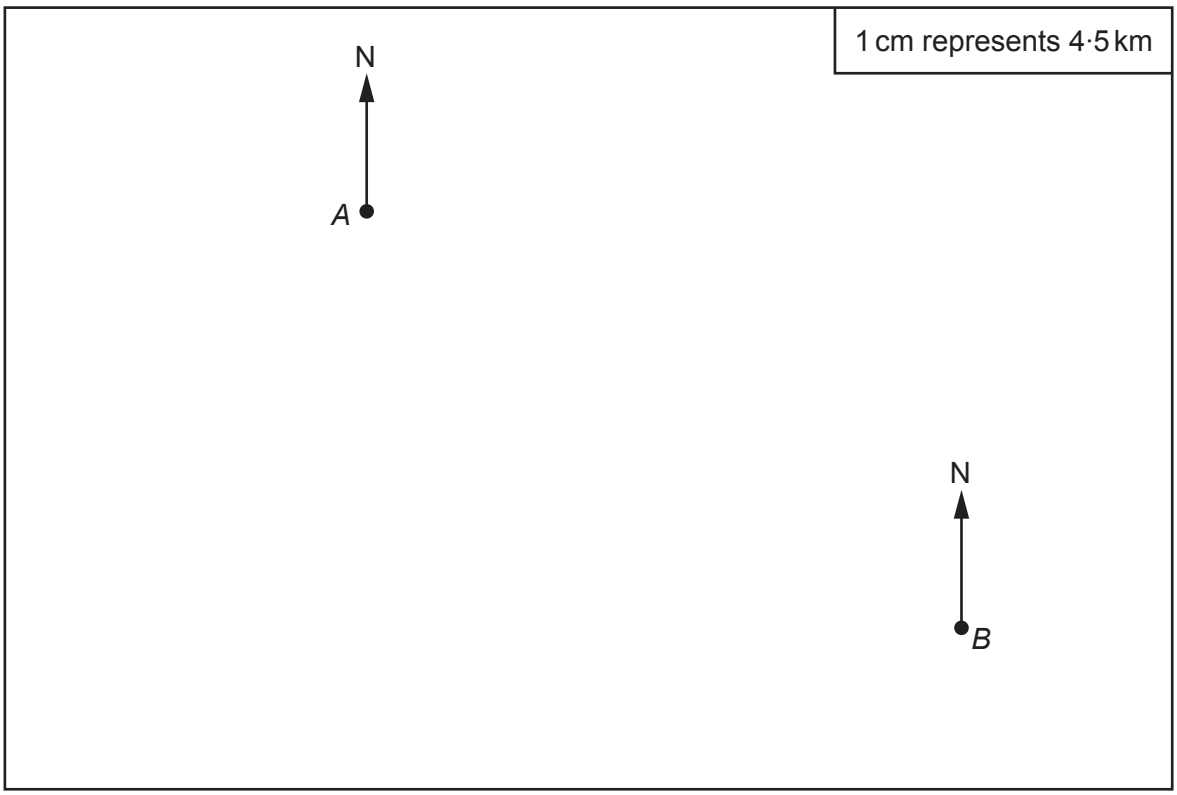
18. The diagram below shows two towns, *A* and *B*, on a map.
The scale of the map is 1 cm represents 4·5 km.



(a) Find the straight-line distance from town *A* to town *B*.
Give your answer in kilometres. [2]

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The straight-line distance from *A* to *B* = ... km

(b) Find the bearing of town *A* from town *B*. [1]

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END OF PAPER

Question number	Additional page, if required. Write the question number(s) in the left-hand margin.

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