

GCSE – NEW

3300U10-1

MATHEMATICS

**UNIT 1: NON – CALCULATOR
FOUNDATION TIER**

TUESDAY,

13 JUNE 2017 – MORNING

1 hour 30 minutes

**(plus your additional
time allowance)**

**THE USE OF A
CALCULATOR IS NOT
PERMITTED IN THIS
EXAMINATION**

For Examiner's use only		
Question	Maximum Mark	Mark Awarded
1.	5	
2.	2	
3.	2	
4.	2	
5.	5	
6.	4	
7.	3	
8.	2	
9.	3	
10.	5	
11.	4	
12.	3	
13.	2	
14.	3	
15.	2	
16.	2	
17.	6	
18.	5	
19.	5	
Total	65	

Surname:	
Other Names:	
Centre Number:	
Candidate Number:	0

ADDITIONAL MATERIALS

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

ITEMS INCLUDED WITH QUESTION PAPER

A separate Formula List.

A separate Diagram Booklet.

A spare Diagram Booklet.

Model for Question 4 (b).

Cut out shapes for Question 3.

INSTRUCTIONS TO CANDIDATES

Use black ink, black ball – point pen, black felt tip or your usual method.

Write your name, centre number and candidate number in the spaces on the front cover.

Answer ALL questions.

Write your answers in the spaces provided.

If you run out of space, use the continuation pages at the back of the booklet, taking care to number the question(s) correctly.

Take π as 3.14

(Turn over)

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 10, the assessment will take into account the quality of your linguistic and mathematical organisation, communication and accuracy in writing.

1. (a) Write the number fifty thousand and four in figures.

[1 mark]

- (b) Calculate £7.20 divided by 9

Write your answer in pence.

Answer: _____ pence

[2 marks]

continued on the next page . . .

(Turn over)

Question 1 continued

1. (c) Mair thought of two whole numbers.
When she multiplied them together,
the answer was **20**
When she added them together,
the answer was **9**
What are the two numbers that
Mair thought of?

Numbers are _____ and _____

[2 marks]

(Turn over)

2. Look at the diagram for Question 2 in the separate Diagram Booklet.

The diagram shows a shape on a square grid. Each square on the grid represents a one centimetre square.

Estimate the area of the shape.

Remember: Each square on the grid represents a one centimetre square.

Area of the shape = _____ cm^2

[2 marks]

(Turn over)

3. Look at the diagram for Question 3 in the separate Diagram Booklet.

The diagram shows some squares on a grid.

Shade the smallest number of squares needed to make the line AB a line of symmetry.

A set of cut out squares are available for this question.

[2 marks]

4. (a) Look at the diagram for Question 4 (a) in the separate Diagram Booklet.

What type of angle is X in the diagram shown?

Circle your answer.

right angle	reflex	obtuse	acute
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[1 mark]

- (b) Ask for the model for Question 4 (b).

What is the special name of this shape?

Circle your answer.

sphere	cube	cone	cuboid	cylinder
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[1 mark]

(Turn over)

- 5. Look at the diagram for Question 5 in the separate Diagram Booklet.**

The diagram is a bar chart.

Blues, Dragons, Ospreys and Scarlets are four Welsh rugby teams.

Aled asked a group of 170 pupils which of these 4 teams they preferred.

He then drew this bar chart to show the data that he had collected.

- (a) Aled knew that 50 of these pupils said that they preferred the Blues.**

Complete the table provided for Question 5 (a) in the separate Diagram Booklet.

[3 marks]

(Turn over)

Question 5 continued

- 5. (b) A pupil is chosen at random from this group.**

What is the probability that this pupil preferred the Blues?

[2 marks]

(Turn over)

6. Look at the diagram for Question 6 in the separate Diagram Booklet.

- (a) The points **A** and **B** are plotted on the grid shown.

Write down the coordinates of **A** and **B**.

A (_____ , _____)

B (_____ , _____)

[2 marks]

- (b) The point **C** is the midpoint of the line **AB**.

Find the coordinates of **C**.

C (_____ , _____)

[2 marks]

(Turn over)

7. (a) Solve these equations.

(i) $7x = 56$

[1 mark]

(ii) $y + 19 = 83$

[1 mark]

(b) Simplify the expression

$12k - 15k + 7k$

[1 mark]
(Turn over)

8. (a) Write down the value of 9^2

[1 mark]

(b) Work out 1.2×70

[1 mark]

(Turn over)

- 9. Look at the diagram for Question 9 in the separate Diagram Booklet. The diagram is NOT drawn to scale.**

In the space provided for Question 9 in the separate Diagram Booklet, use a ruler and a protractor to make an accurate drawing of the triangle shown.

[3 marks]

- 10. IN THIS QUESTION, YOU WILL BE ASSESSED ON THE QUALITY OF YOUR ORGANISATION, COMMUNICATION AND ACCURACY IN WRITING.**

Look at the diagram for Question 10 in the separate Diagram Booklet.

The diagram is NOT drawn to scale.

The diagram shows PART of a rectangle and some identical circles drawn inside the rectangle.

The circles touch each other or the sides of the rectangle, as shown in the diagram.

The rectangle measures 30 cm by 1 m.

The diameter of every circle is 5 cm.

What is the largest number of circles that will fit into this rectangle?

The circles must be arranged in the way shown in the diagram.

You must show all your working.

(Turn over)

11. (a) Write down the next two numbers in the following sequence.

35, 25, 16, 8, _____, _____

[2 marks]

- (b) Find the value of $2x + 7y$
when $x = -3$ and $y = 10$

[2 marks]

(Turn over)

12. Write down 0.4, 15% and $\frac{7}{20}$

in ascending order.

You must show all your working.

_____ _____ _____
Smallest value $\longrightarrow$ Greatest value
[3 marks]

(Turn over)

- 13. Look at the diagram for Question 13 in the separate Diagram Booklet. The diagram shows a triangle on a grid.**

Enlarge the triangle shown by a scale factor of 3

[2 marks]

14. (a) A fair, six – sided dice is rolled.

What is the probability that a 4 is shown on the dice?

Circle your answer.

6%	$\frac{1}{5}$	$\frac{1}{4}$	6:1	$\frac{1}{6}$
----	---------------	---------------	-----	---------------

[1 mark]

- (b) 50 raffle tickets were sold at a charity event.

Sian has a 20% chance of winning the top prize.

How many tickets did Sian buy?

Circle your answer.

1	2	4	10	20
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[1 mark]

(Turn over)

Question 14 continued

- 14. (c) Look at the information for Question 14 (c) in the separate Diagram Booklet.**

A bag contains a mixture of blue beads, yellow beads and pink beads.

One bead is taken at random from the bag.

The probability that the bead is pink is $\frac{1}{5}$

Which of the sets of beads shown could have been in the bag?

Circle your answer.

[1 mark]

(Turn over)

15. Team A and Team B play in a competition.

Team A has nine more points than Team B.

Team A has four times as many points
as Team B.

How many points does each team have?

Team A: _____ points

Team B: _____ points

[2 marks]

(Turn over)

- 16. David, Jane and Mary are beach inspectors. Three beaches, Harlech, Rhyl and Porthcawl, are all to be inspected on a certain day. It is decided to share the work so that the inspectors will visit one beach each, chosen at random.**

In the space provided for Question 16 in the separate Diagram Booklet, list all the possible different ways they could share the work.

One has been done for you.

[2 marks]

17. Look at the diagram for Question 17 in the separate Diagram Booklet.

The diagram is NOT drawn to scale.

The diagram shows a quadrilateral ***ABCD***.

In the quadrilateral,

Angle ***DCB*** = x°

Angle ***CDA*** = $3x^\circ$

Angle ***DAB*** = $2x^\circ$

Angle ***CBA*** is a right angle.

(a) Calculate the value of ***X***.

(Turn over)

[4 marks]

17. (b) When $ABCD$ is drawn to scale, would the lines AD and BC be parallel or not? You must justify your answer without using a scale drawing.

[2 marks]

(Turn over)

18. (a) Estimate the value of $\frac{41.3 \times 29.6}{198.7}$

You must show all your working.

[2 marks]

continued on the next page . . .

(Turn over)

Question 18 continued

18. (b) Given that $54 \times 84.2 = 4546.8$
write down the exact value of each
of the following.

(i) 540×842

= _____

[1 mark]

(ii)
$$\frac{4546.8}{5.4}$$

= _____

[1 mark]

(iii)
$$\frac{454.68}{84.2}$$

= _____

[1 mark]

(Turn over)

19. Look at the diagram for Question 19 in the separate Diagram Booklet.

The diagram is NOT drawn to scale.

In the diagram,

$ABCD$ is a rectangle

PQ is parallel to **AD**

$$DQ = g \text{ cm}$$

$$QC = 8 \text{ cm}$$

$$CB = f \text{ cm}$$

The area of **$ABCD$** is 52 cm^2

The area of **$APQD$** is 20 cm^2

Calculate the values of **f** and **g** .

You must show all your working.

TOTAL 65 MARKS

Question number	Additional Pages, if required. Write the question number in the left - hand margin.

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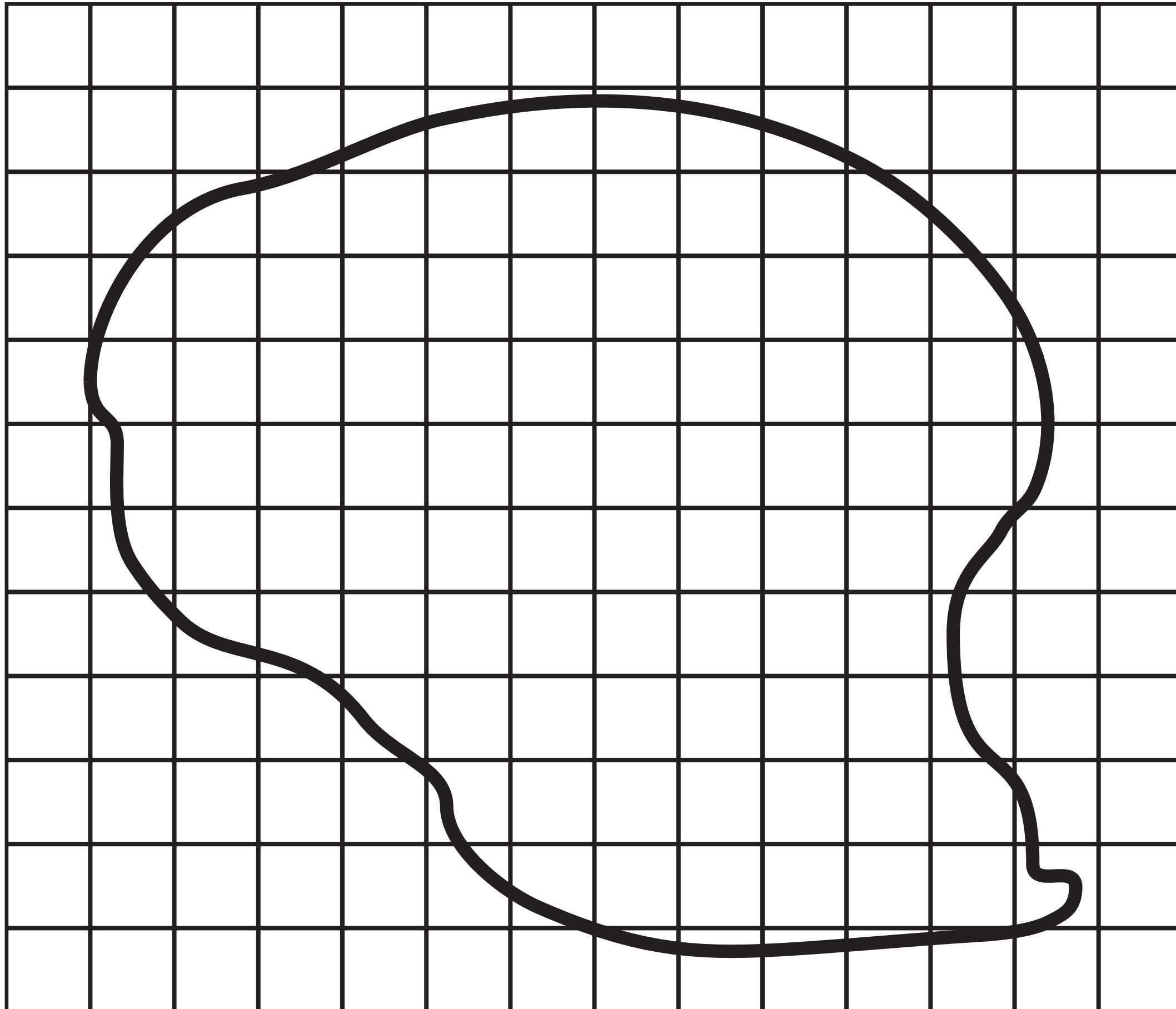
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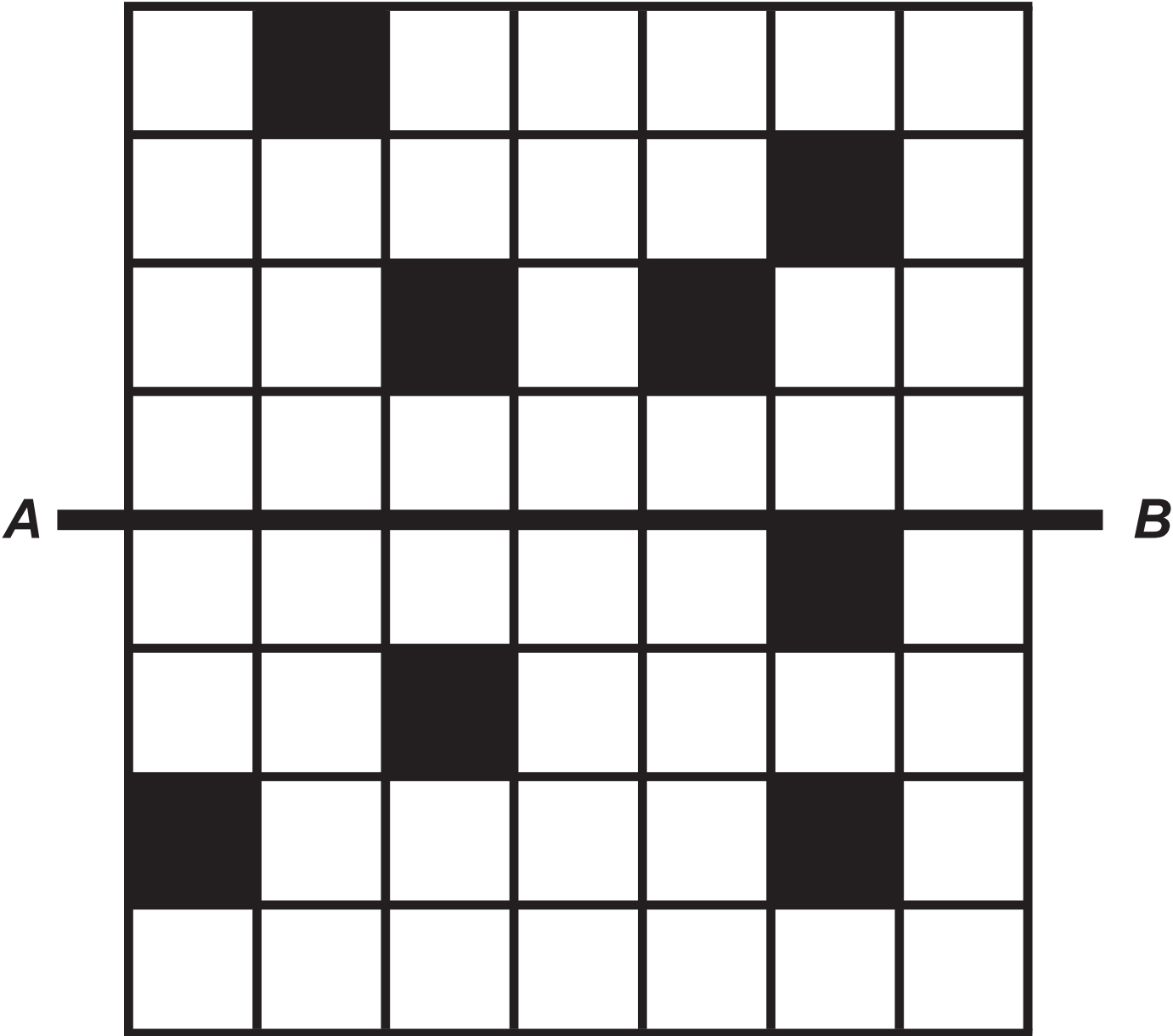
Diagram Booklet

Surname:	
Other Names:	
Centre Number:	
Candidate Number:	0

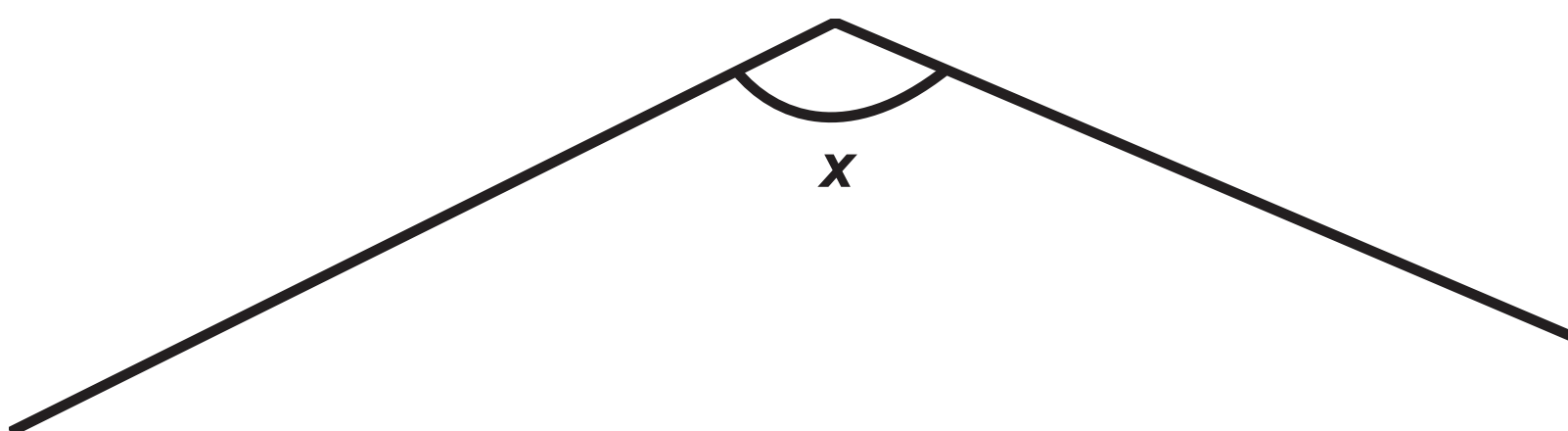
Question 2



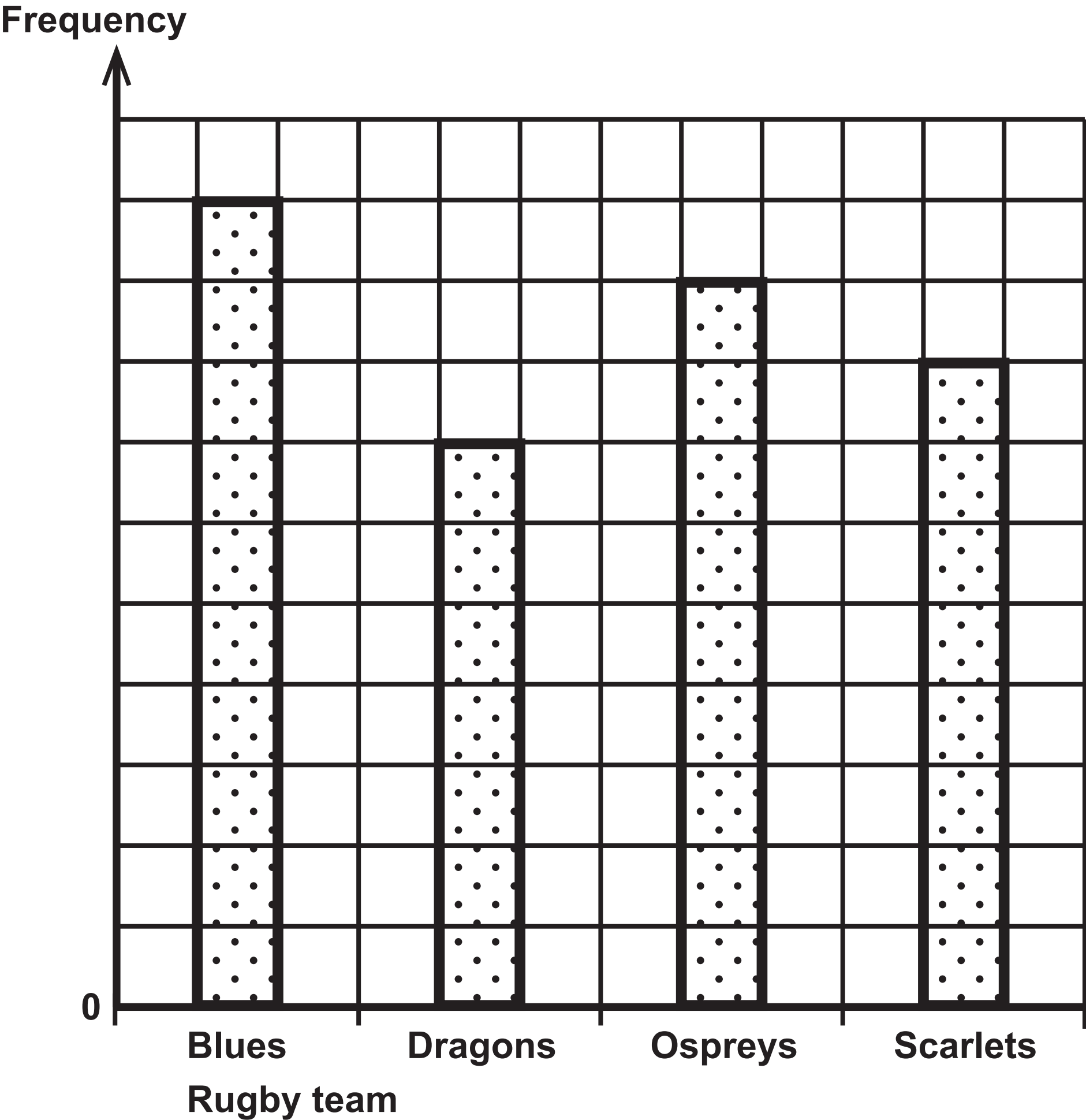
Question 3



Question 4 (a)



Question 5

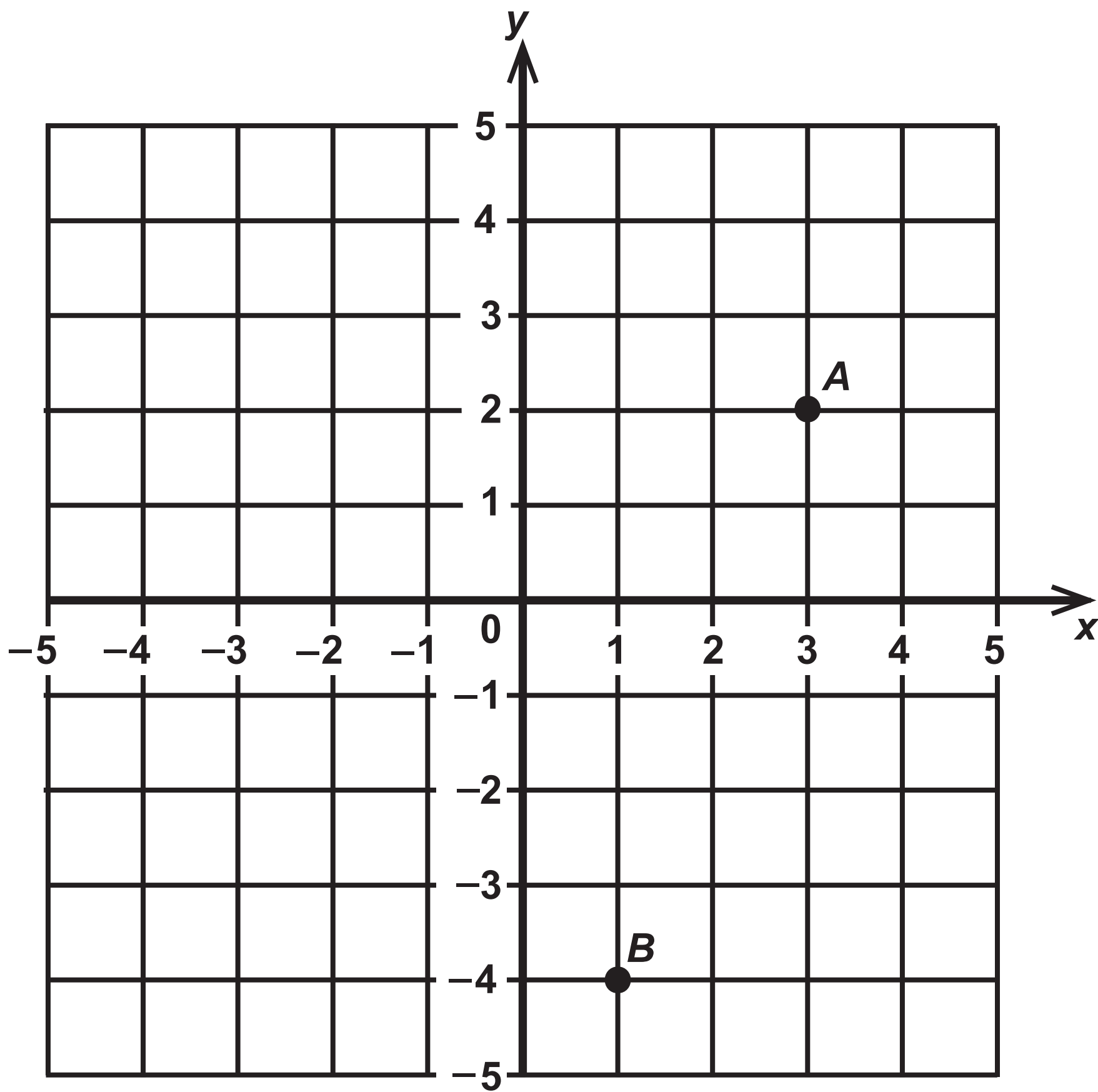


Question 5 (a)

Table

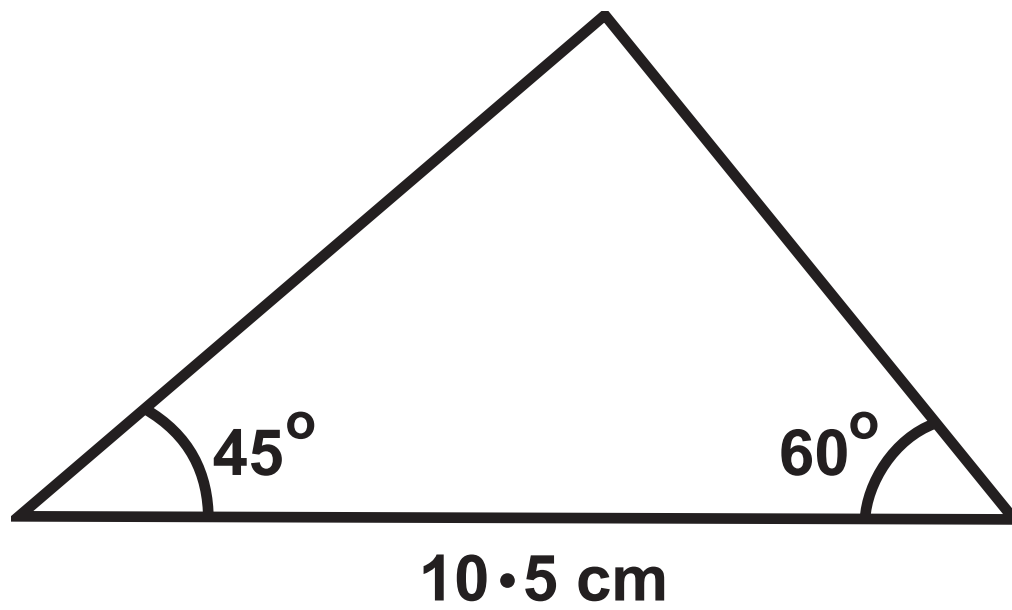
RUGBY TEAM PREFERRED	NUMBER OF PUPILS
Blues	50
Dragons	
Ospreys	
Scarlets	

Question 6



Question 9

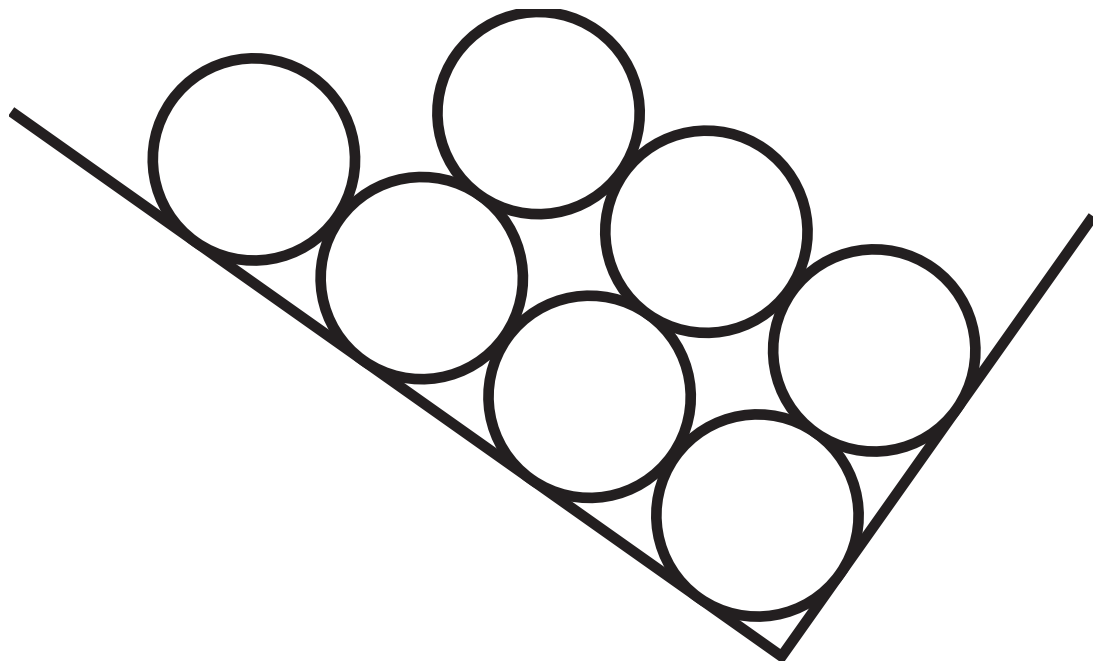
Diagram NOT drawn to scale



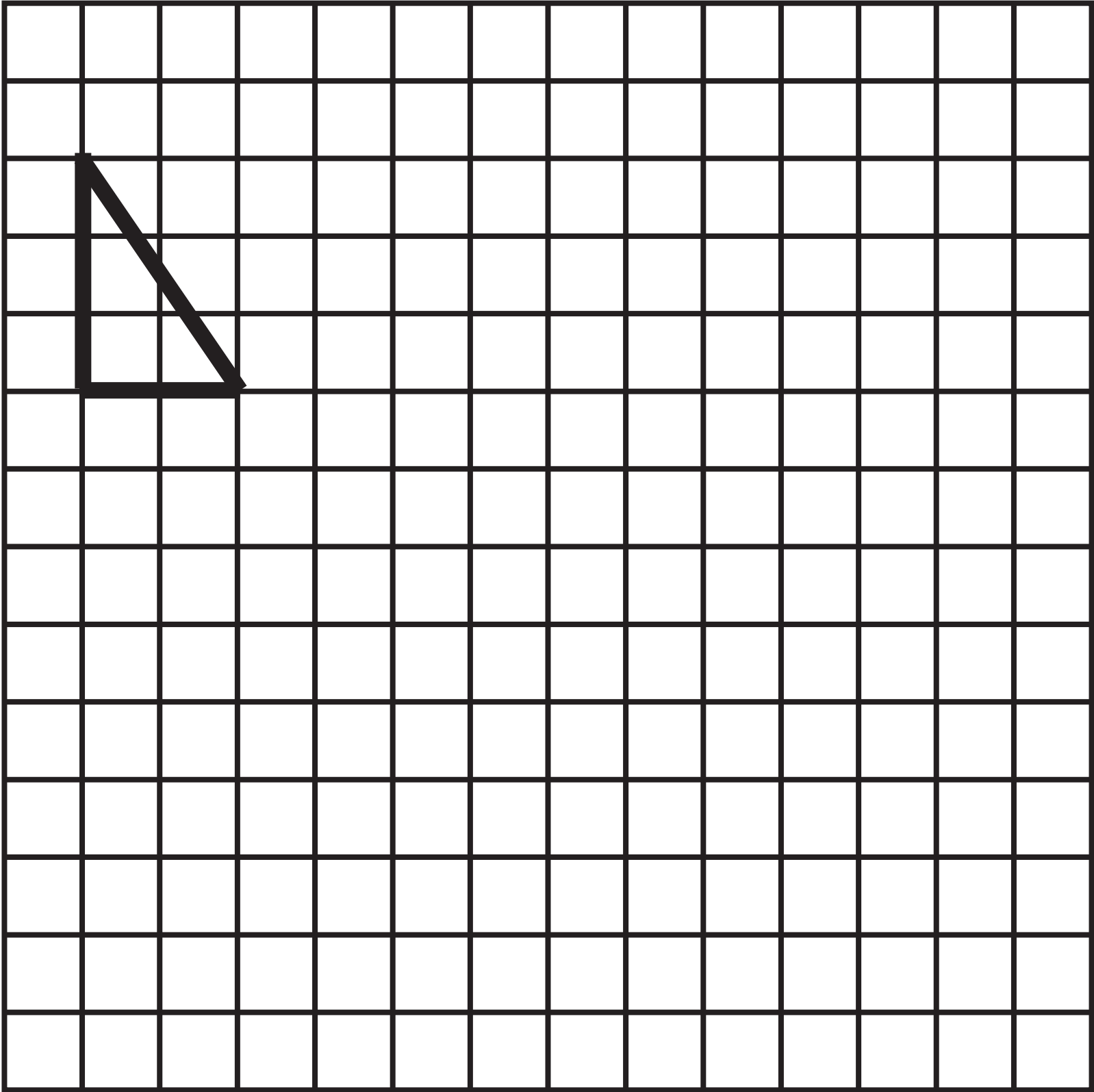
Space for accurate drawing

Question 10

Diagram NOT drawn to scale



Question 13



Question 14 (c)

Information

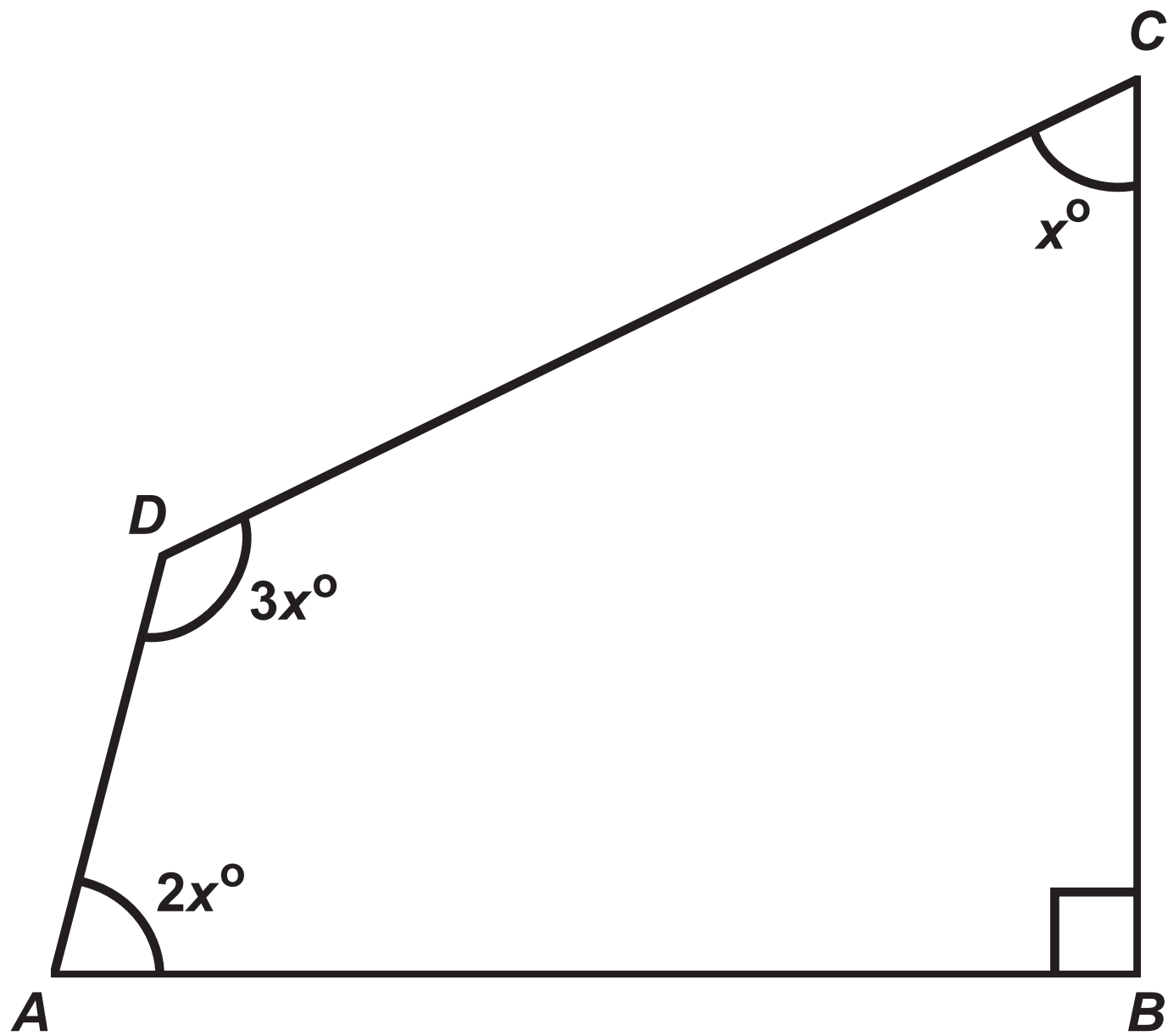
6 blue	5 blue	1 blue	5 blue	6 blue
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Question 16

David → Harlech, Jane → Rhyl and Mary → Porthcawl

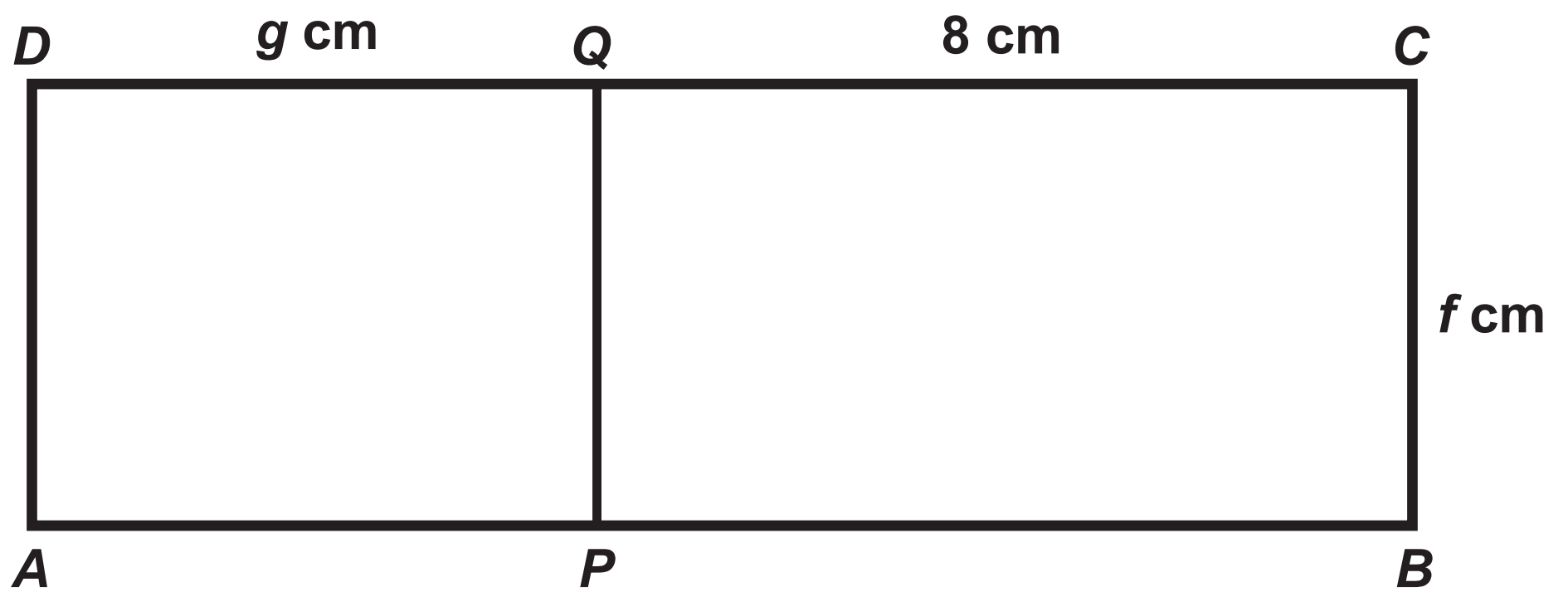
Question 17

Diagram NOT drawn to scale



Question 19

Diagram NOT drawn to scale



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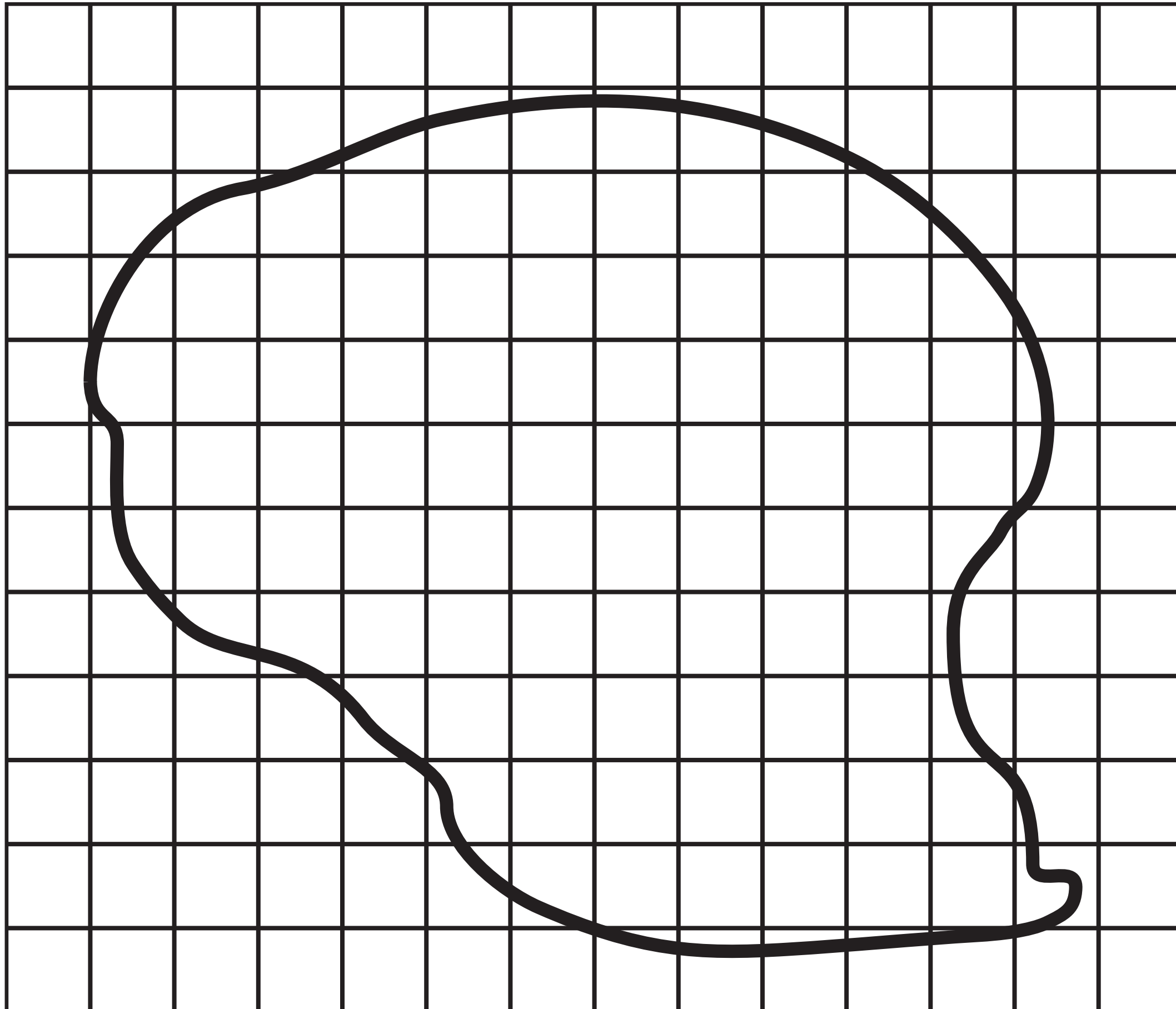
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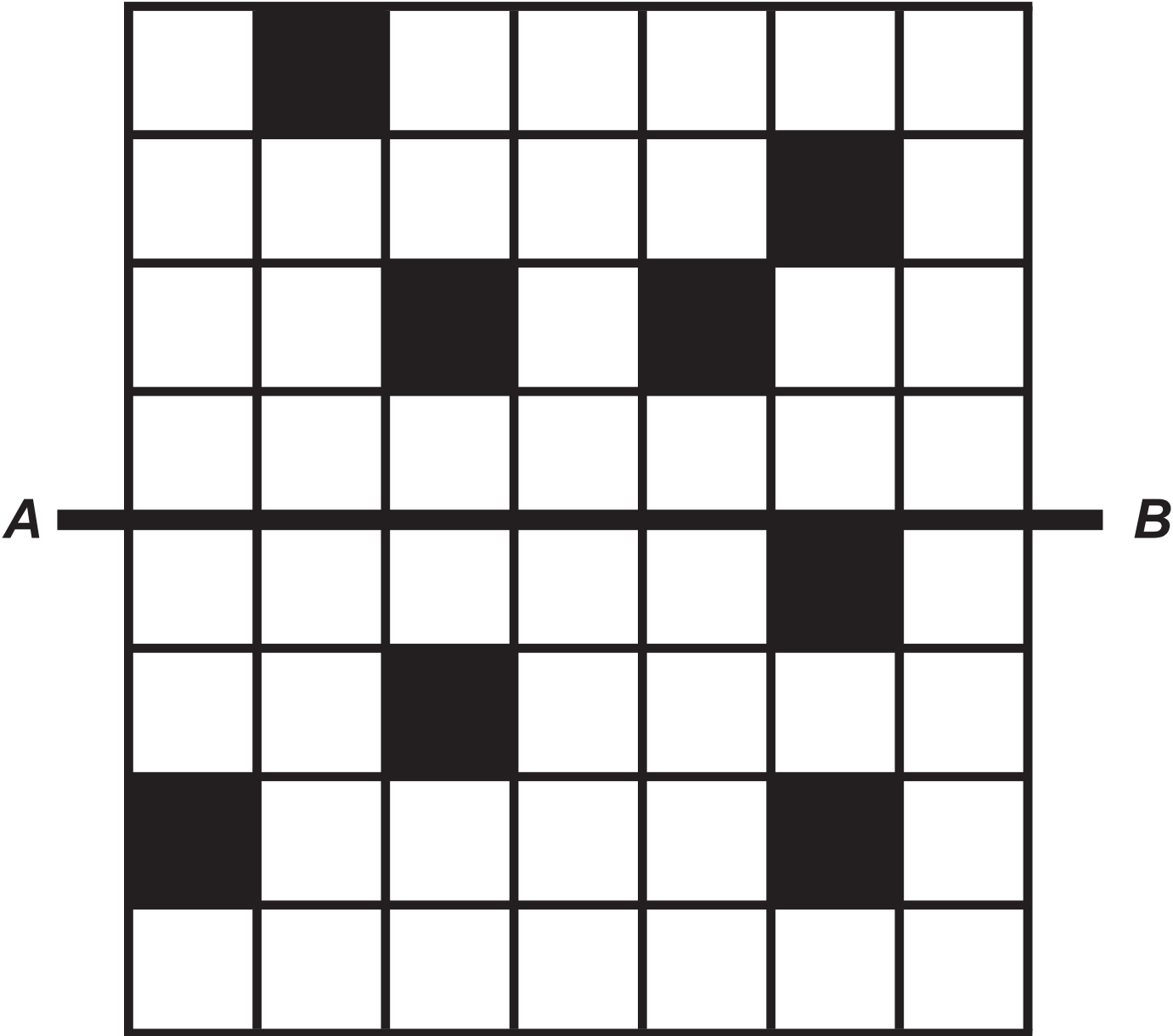
Spare Diagram Booklet

Surname:	
Other Names:	
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Candidate Number:	0

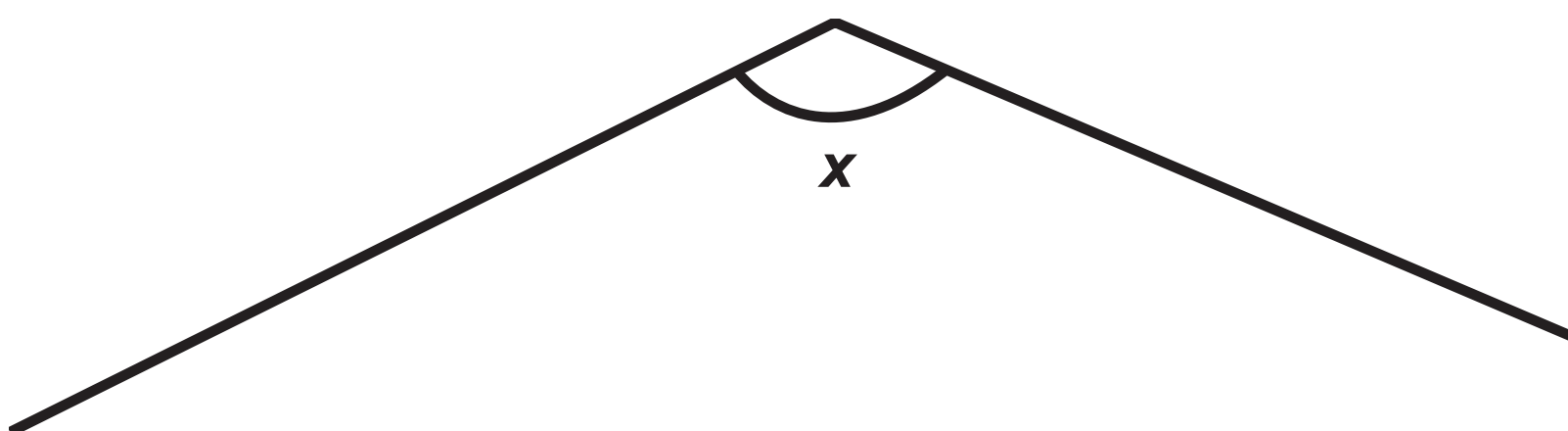
Question 2



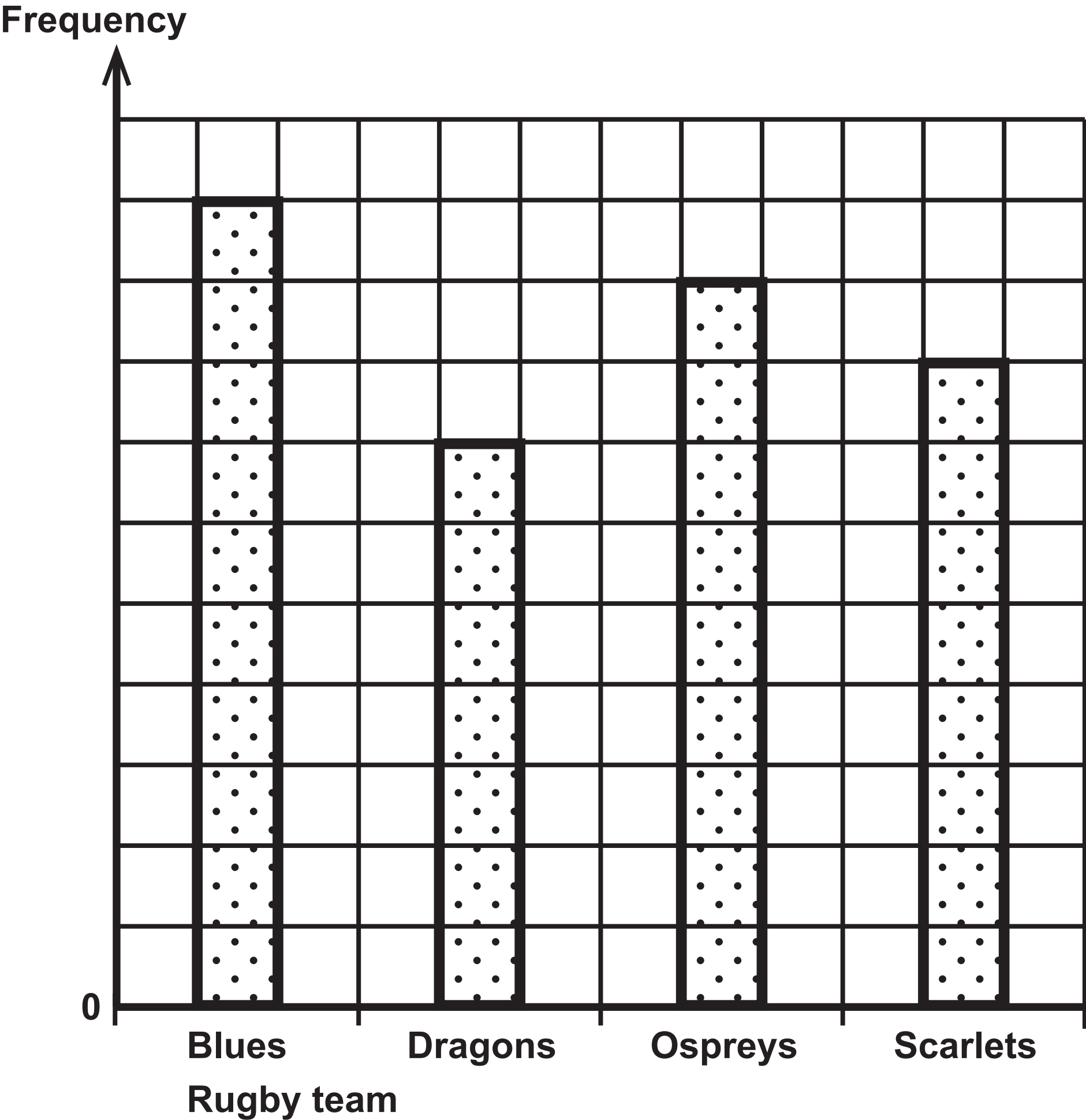
Question 3



Question 4 (a)



Question 5

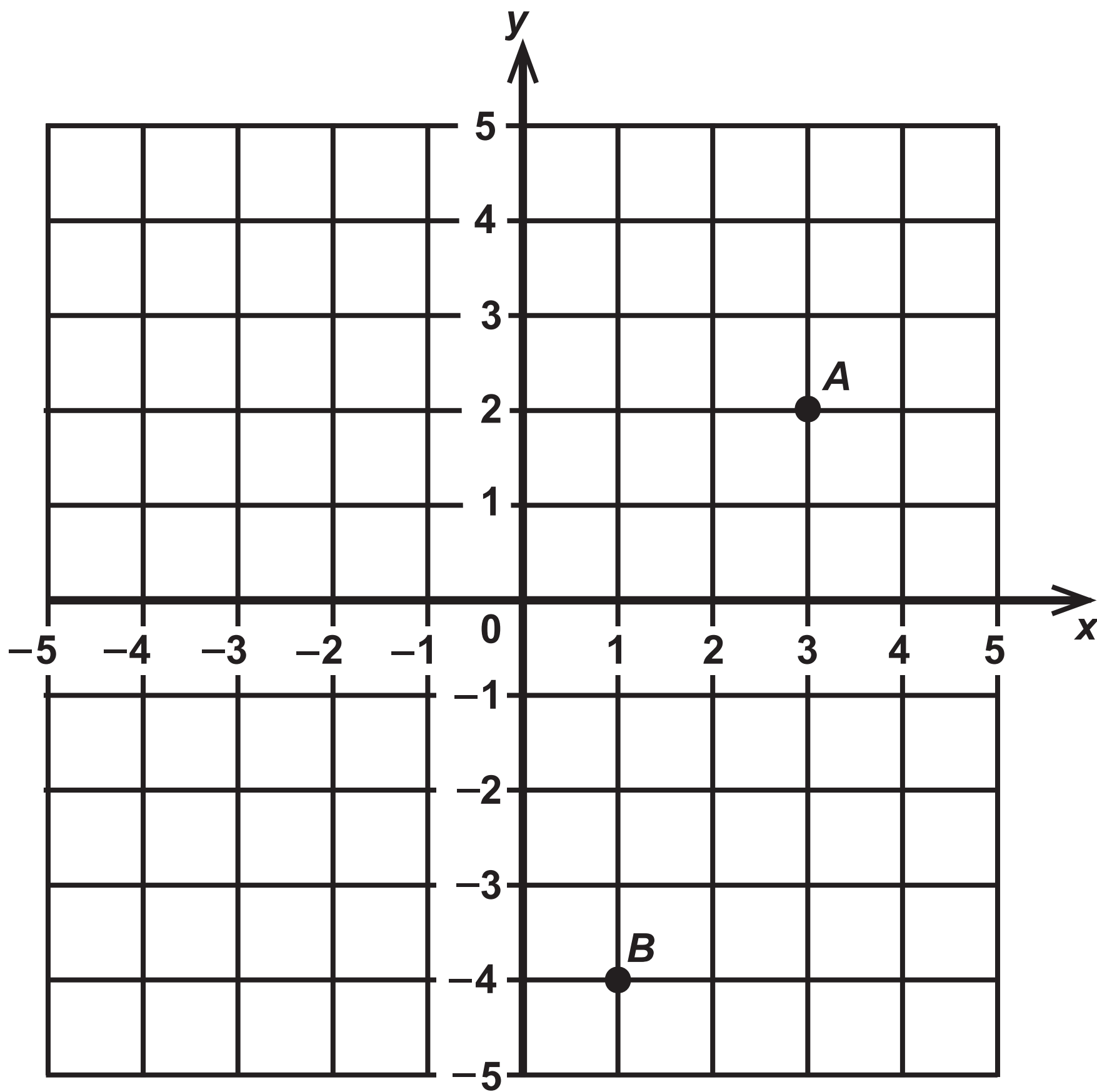


Question 5 (a)

Table

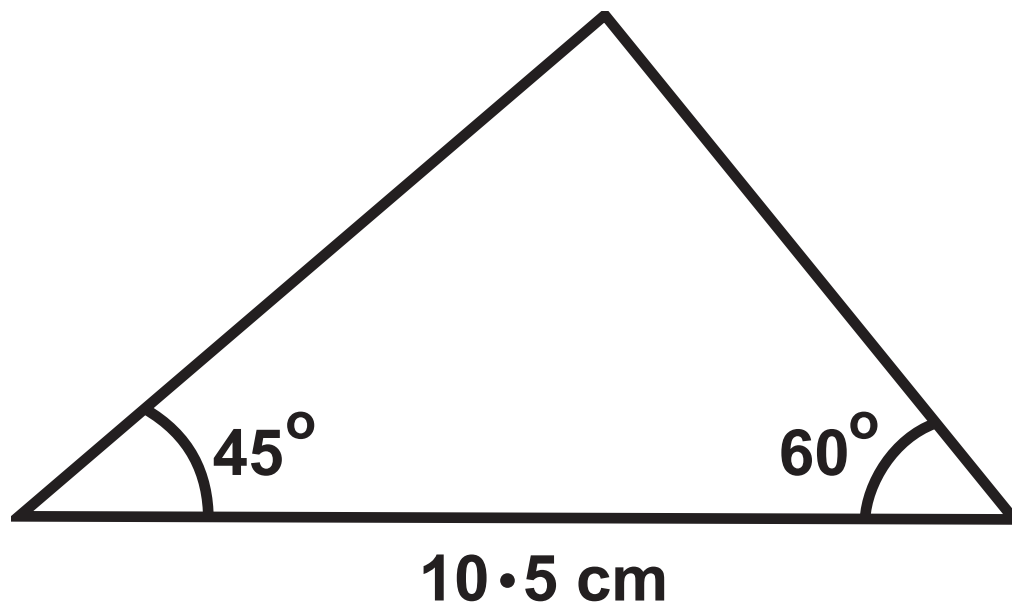
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Question 6



Question 9

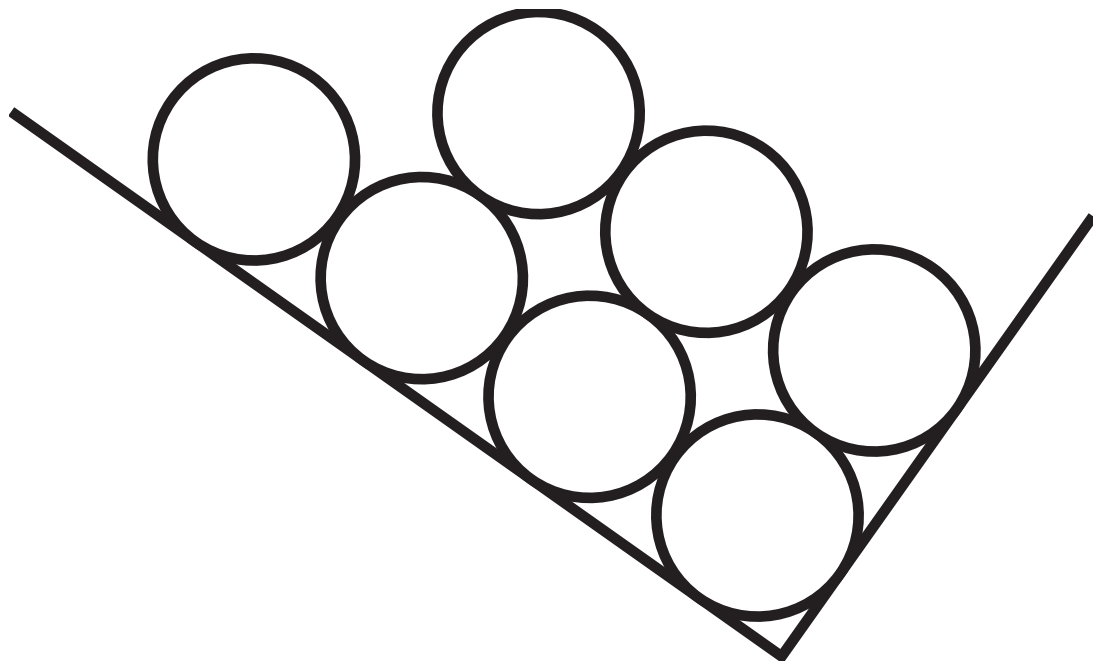
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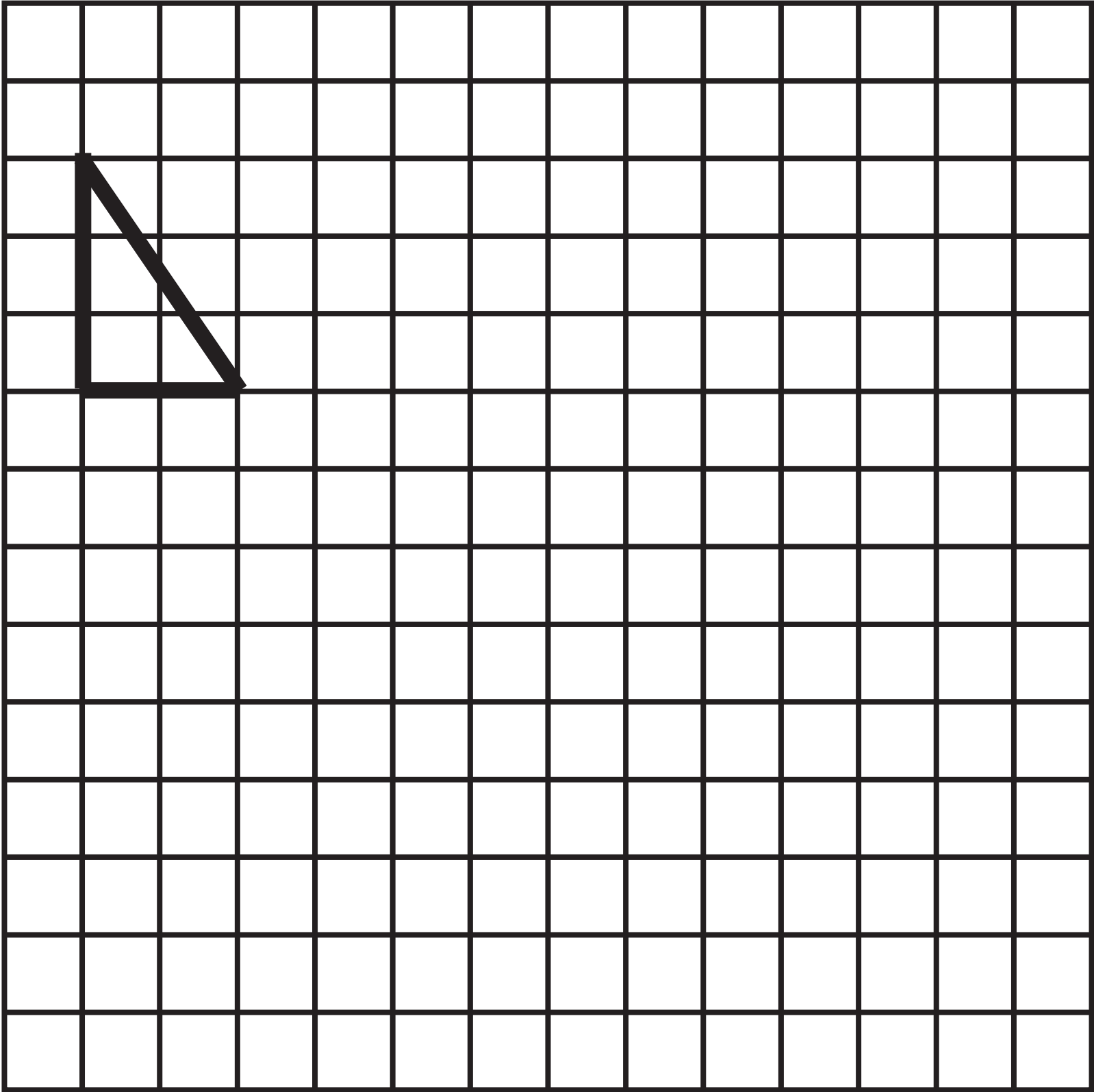
Space for accurate drawing

Question 10

Diagram NOT drawn to scale



Question 13



Question 14 (c)

Information

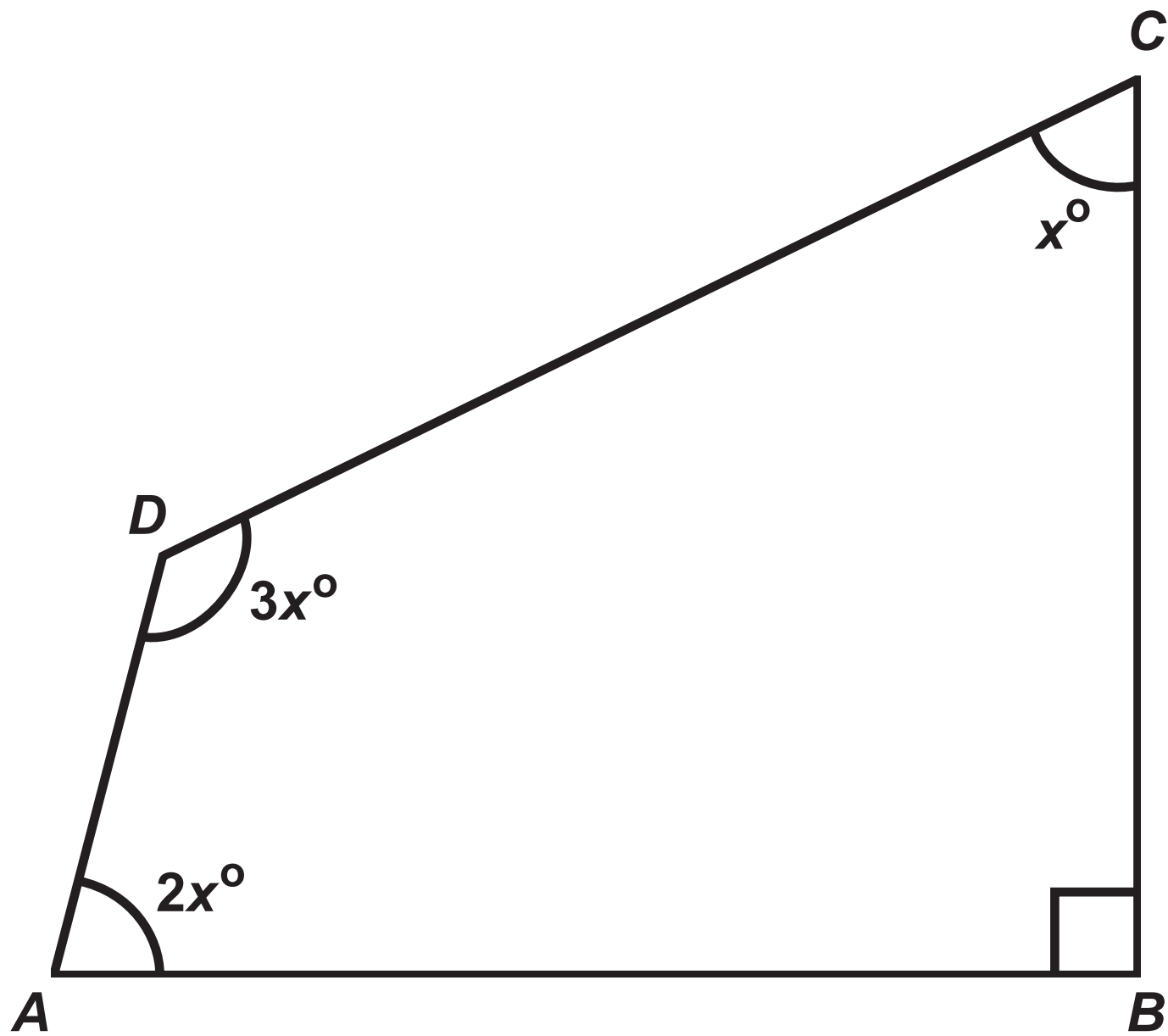
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Question 16

David → Harlech, Jane → Rhyl and Mary → Porthcawl

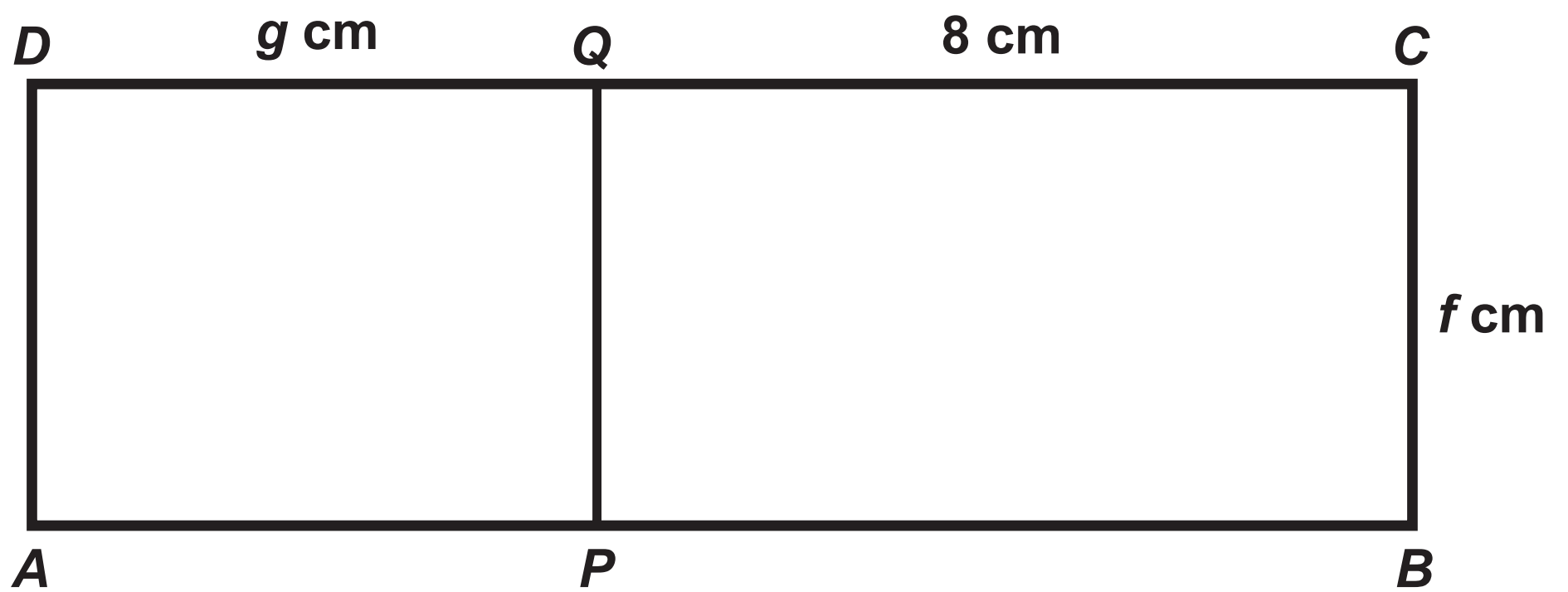
Question 17

Diagram NOT drawn to scale



Question 19

Diagram NOT drawn to scale



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and

NUMERACY

**FORMULA LIST
FOUNDATION TIER
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**You must not write on these formula
pages.**

**Anything you write on these formula
pages will gain NO credit.**

Formula List – Foundation Tier

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

