



GCSE

3300U10-1

TUESDAY, 23 MAY 2023 – MORNING

MATHEMATICS

UNIT 1: NON – CALCULATOR

FOUNDATION TIER

**1 hour 30 minutes plus your additional
time allowance**

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

Surname: _____

First name(s): _____

Centre Number: _____

Candidate Number: 0 _____

For Examiner's use only		
Question	Maximum Mark	Mark Awarded
1.	5	
2.	2	
3.	2	
4.	4	
5.	2	
6.	6	
7.	2	
8.	2	
9.	2	
10.	5	
11.	3	
12.	2	
13.	4	
14.	2	
15.	3	
16.	3	
17.	3	
18.	5	
19.	6	
20.	2	
Total	65	

(Turn over)

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.

Model for Question 9.

Cut out shapes for Question 2 and Question 20.

The Diagram Booklet MUST be handed in to the invigilators and sent for marking.

(Turn over)

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 additional page(s) at the back of the booklet. Question numbers must be given for the work written on the additional page(s).

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

(Turn over)

- 1. (a) Write the number sixty thousand and forty – three in figures.**

[1 mark]

- (b) Write down the value of the 7
in the number 137 520**

[1 mark]

continued on the next page . . .

(Turn over)

Question 1 continued

1. (c) Divide 504 by 8

[1 mark]

continued on the next page . . .

(Turn over)

Question 1 continued**1. (d) Subtract 394 from 800**

[1 mark]**continued on the next page . . .****(Turn over)**

Question 1 continued

1. (e) Multiply 93 by 7

[1 mark]

(Turn over)

- 2. Look at the diagram for Question 2 in the separate Diagram Booklet. The diagram shows some shaded squares on a grid.**

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

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

[2 marks]

(Turn over)

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

Measure and write down the size of angle y .

$y =$ _____^o

[1 mark]

continued on the next page . . .

(Turn over)

Question 3 continued

- 3. (b) Look at the diagram for Question 3 (b) in the separate Diagram Booklet.**

Draw a line through the point C that is perpendicular to AB .

[1 mark]

(Turn over)

12

- 4. (a) Billy thinks of a number.
Billy halves his number.
His answer is 58**

What number did Billy think of?

[1 mark]

continued on the next page . . .

(Turn over)

Question 4 continued

4. (b) Siân thinks of a different number.

Siân squares her number.

Her answer is 9

What number did Siân think of?

[1 mark]

continued on the next page . . .

(Turn over)

Question 4 continued

4. (c) Calculate 40% of 120

[2 marks]
(Turn over)

5. (a) Which of the following is equal to 0.5 kg ?

Circle the correct answer.

50 mg	500 g	500 mg	5 mg	50 g
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[1 mark]

continued on the next page . . .

(Turn over)

Question 5 continued

5. (b) Which of the following is equal to 700 cm ?

Circle the correct answer.

7 m	7 km	0.7 m	0.07 km	70 m
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[1 mark]

(Turn over)

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

**Look at the diagram for Question 6
in the separate Diagram Booklet.
The diagram IS drawn accurately.**

**The diagram shows Rod A and
Rod B.**

continued on the next page . . .

(Turn over)

Question 6 continued

Three of Rod A and four of Rod B are placed end to end in one straight line.

What is the total length of these rods?

You must show all your working.

(Turn over)

[illegible]

- 7. Catrin has a bag containing only apples, bananas and lemons. She has 20 pieces of fruit altogether in her bag.**

Catrin chooses one piece of fruit at random from her bag.

Look at the diagram for Question 7 in the separate Diagram Booklet. The diagram shows a probability scale.

continued on the next page . . .

(Turn over)

Question 7 continued

The probability that she chooses each type of fruit is shown on the probability scale, where

- **A represents apple**
- **B represents banana**
- **L represents lemon.**

How many apples does Catrin have in her bag?

(Turn over)

22

[2 marks]

(Turn over)

8. (a) The cost of one book is £ m

What is the cost of 15 books
in pounds (£) ?

[1 mark]

continued on the next page . . .

(Turn over)

Question 8 continued

8. (b) leuan has 20 oranges.

He gives away k oranges.

How many oranges does leuan
have now?

[1 mark]

(Turn over)

9. Ask for the model for Question 9.

The model IS made to scale.

The model represents a box.

**The box is 5 cm long, 3 cm wide
and 4 cm high.**

The box does NOT have a lid.

**On the centimetre squared grid
provided for Question 9 in the
separate Diagram Booklet, complete
an accurate net of the box.**

The base has been drawn for you.

[2 marks]

(Turn over)

10. Look at the diagram for Question 10 in the separate Diagram Booklet. The diagram is a coordinate grid. Each square on the grid represents a one centimetre square.

***ABCD* is a rectangle.**

***A* is the point (3, 4),**

***B* is the point (−5, 4),**

***C* is the point (−5, −2) and**

***D* is the point (3, −2)**

continued on the next page . . .

(Turn over)

Question 10 continued

What is the perimeter of $ABCD$?

You may use the square grid to help you.

Remember, each square on the grid represents a one centimetre square.

(Turn over)

Perimeter of $ABCD$

= _____ cm

[5 marks]

(Turn over)

11. Write $\frac{2}{5}$, 9% and 0.3 in ascending order.

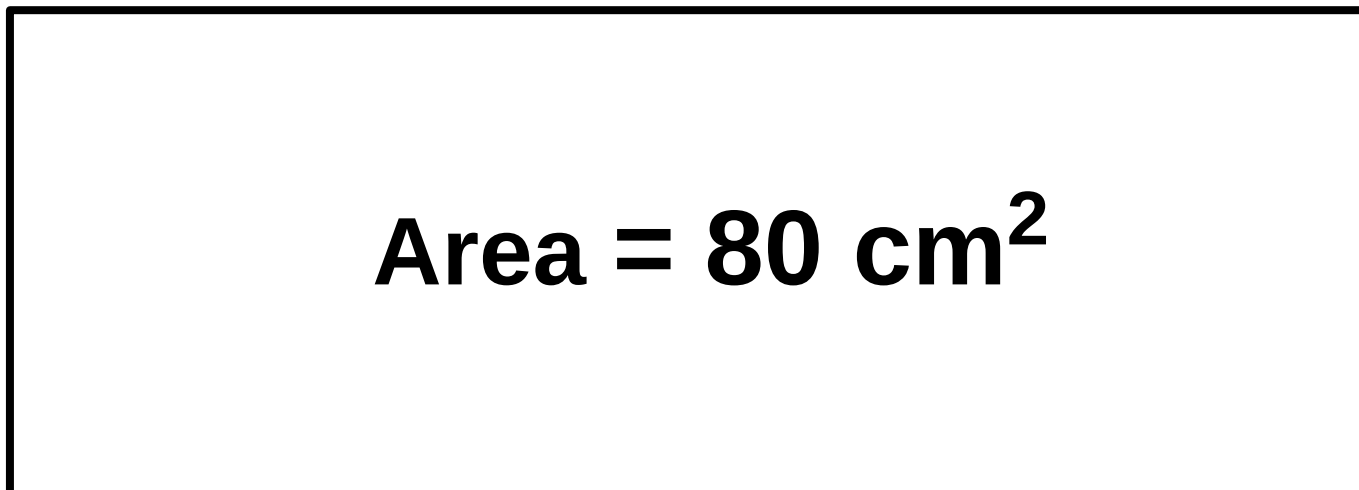
You must show all your working.

(Turn over)

Smallest value  Greatest value
[3 marks]

12. Look at the diagram below.

The diagram is NOT drawn to scale.



The area of this rectangle is 80 cm²

**The length of the rectangle is
5 times its width.**

**Calculate the length and width
of the rectangle.**

(Turn over)

32

Length = _____ cm

Width = _____ cm

[2 marks]

(Turn over)

13. (a) Solve the equation $3x - 10 = 17$

[2 marks]

continued on the next page . . .

(Turn over)

Question 13 continued**13. (b) Simplify $6f - 4g + 2f - 9g$**

[2 marks]**(Turn over)**

**14. (a) Which of the following is nearest
in mass to 5 kg ?**

Circle the correct answer.

7 lb	11 lb	15 lb	19 lb	23 lb
-------------	--------------	--------------	--------------	--------------

[1 mark]

continued on the next page . . .

(Turn over)

Question 14 continued

14. (b) Which of the following is nearest in volume to 100 litres?

Circle the correct answer.

100 pints	125 pints	150 pints
	175 pints	200 pints

[1 mark]

(Turn over)

15. Rhian is n years old.

Samir is 7 years younger than Rhian.

Nigel is twice as old as Samir.

**Write down an expression,
in terms of n , for Nigel's age.**

Nigel's age _____

[3 marks]

(Turn over)

16. The mean of four numbers is 7

**(a) What is the total of the
four numbers?**

[1 mark]

continued on the next page . . .

(Turn over)

Question 16 continued

**16. (b) Find a set of four numbers
such that:**

- **their mean is 7**
- **their range is 6**

**Write your four numbers in
the boxes on the next page.**

(Turn over)

40

☐☐☐☐

[2 marks]

(Turn over)

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

The diagram is NOT drawn to scale.

Find the size of each of the angles w , x and y .

$w =$ _____ °

$x =$ _____ °

$y =$ _____ °

[3 marks]

(Turn over)

18. Look at the diagram for Question 18 in the separate Diagram Booklet.

The diagram shows two FAIR spinners, SPINNER A and SPINNER B.

In a game, the numbers shown by the two pointers are added together.

In the diagram, the score gained would be $2 + 3 = 5$

A winning score is 6 or more.

continued on the next page . . .

(Turn over)

Question 18 continued

How many winning scores would you expect when the game is played 60 times?

You must show all your working.

(Turn over)

[illegible]

(Turn over)

45

[5 marks]

(Turn over)

**19. (a) Express 48 as a percentage
of 400**

[2 marks]

continued on the next page . . .

(Turn over)

Question 19 continued**19. (b) Share £45 in the ratio 8 : 1**

£ _____ and**£ _____****[2 marks]****(Turn over)**

Question 19 continued

19. (c) Express $1 - \frac{1}{2^3}$ as a single

fraction in the form $\frac{a}{b}$, where

a and b are integers.

(Turn over)

Answer = _____

[2 marks]

20. Look at the diagram for Question 20 in the separate Diagram Booklet. The diagram shows a shape on a coordinate grid.

Rotate the shape shown by 90° anticlockwise about the origin.

A cut out shape is available for this question.

[2 marks]

END OF PAPER

TOTAL 65 MARKS

(Turn over)

[illegible]

(Turn over)

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

(Turn over)

[illegible]

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Diagram Booklet

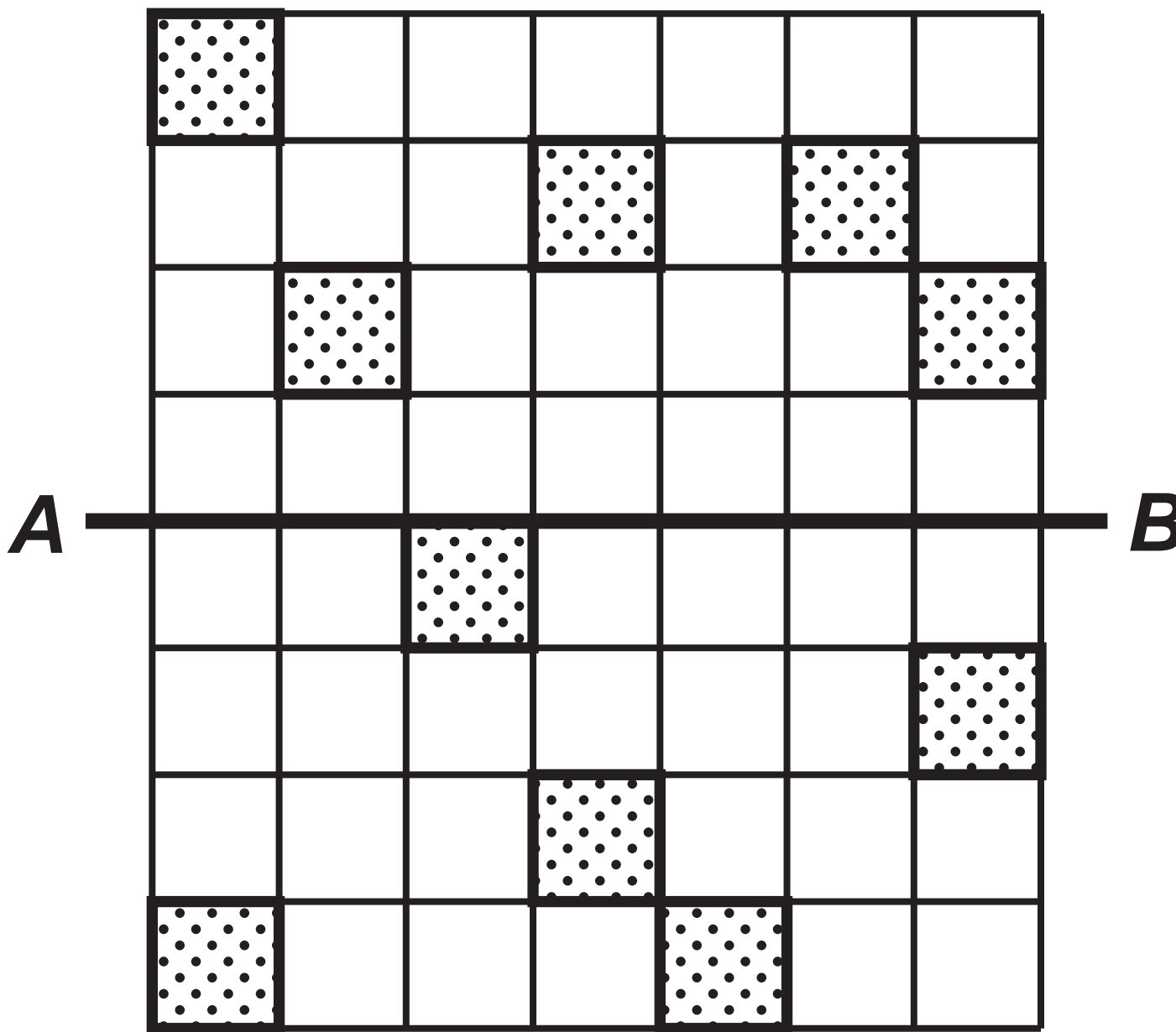
Surname: _____

First name(s): _____

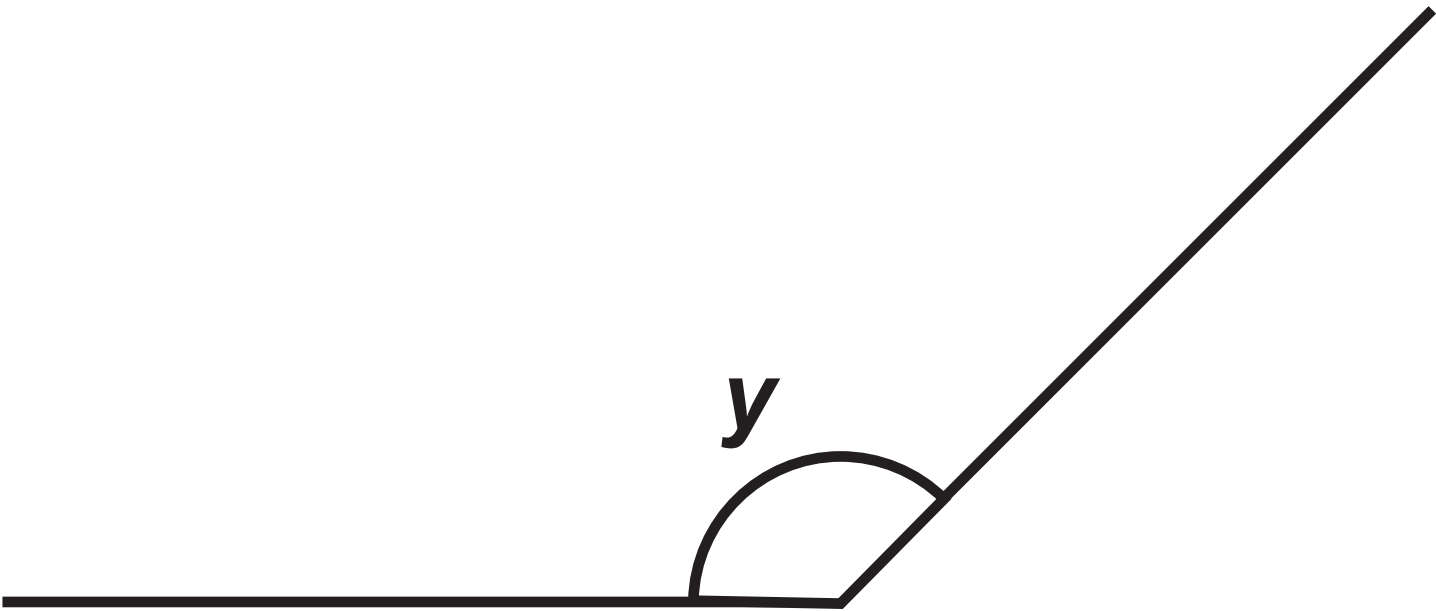
Centre Number: _____

Candidate Number: 0 _____

Question 2

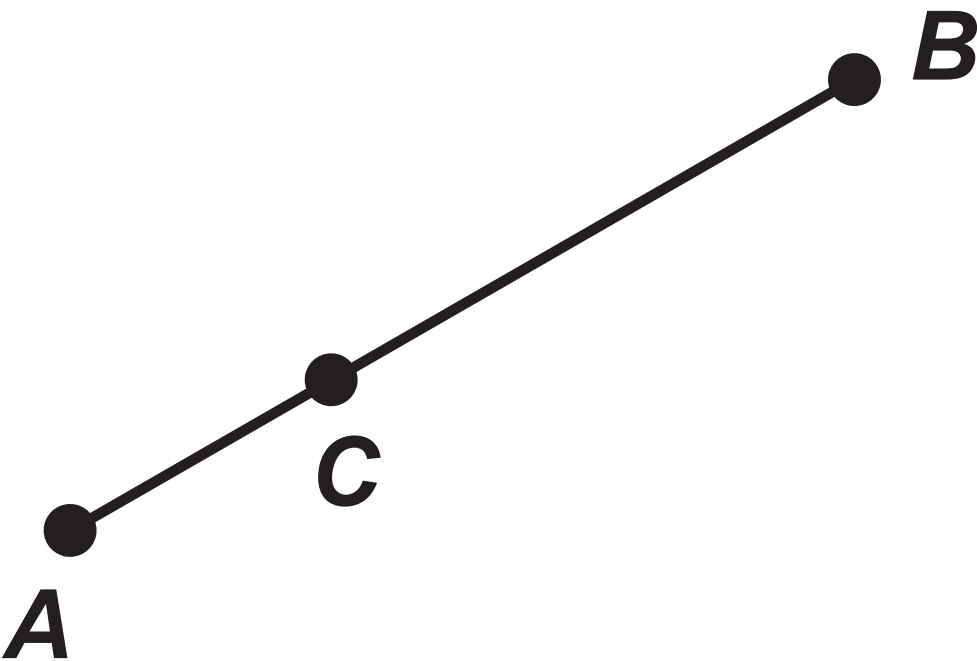


Question 3 (a)



Question 3 (a)

Question 3 (b)



Question 6

The diagram IS drawn accurately

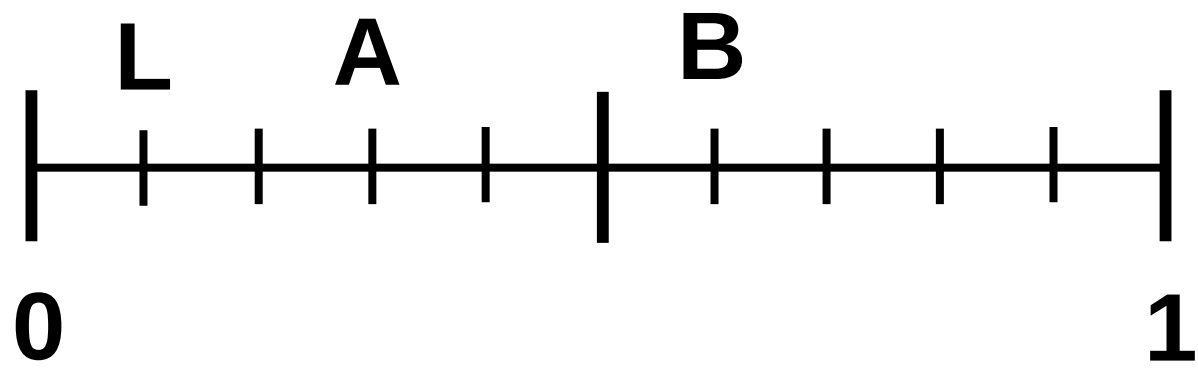
Rod A



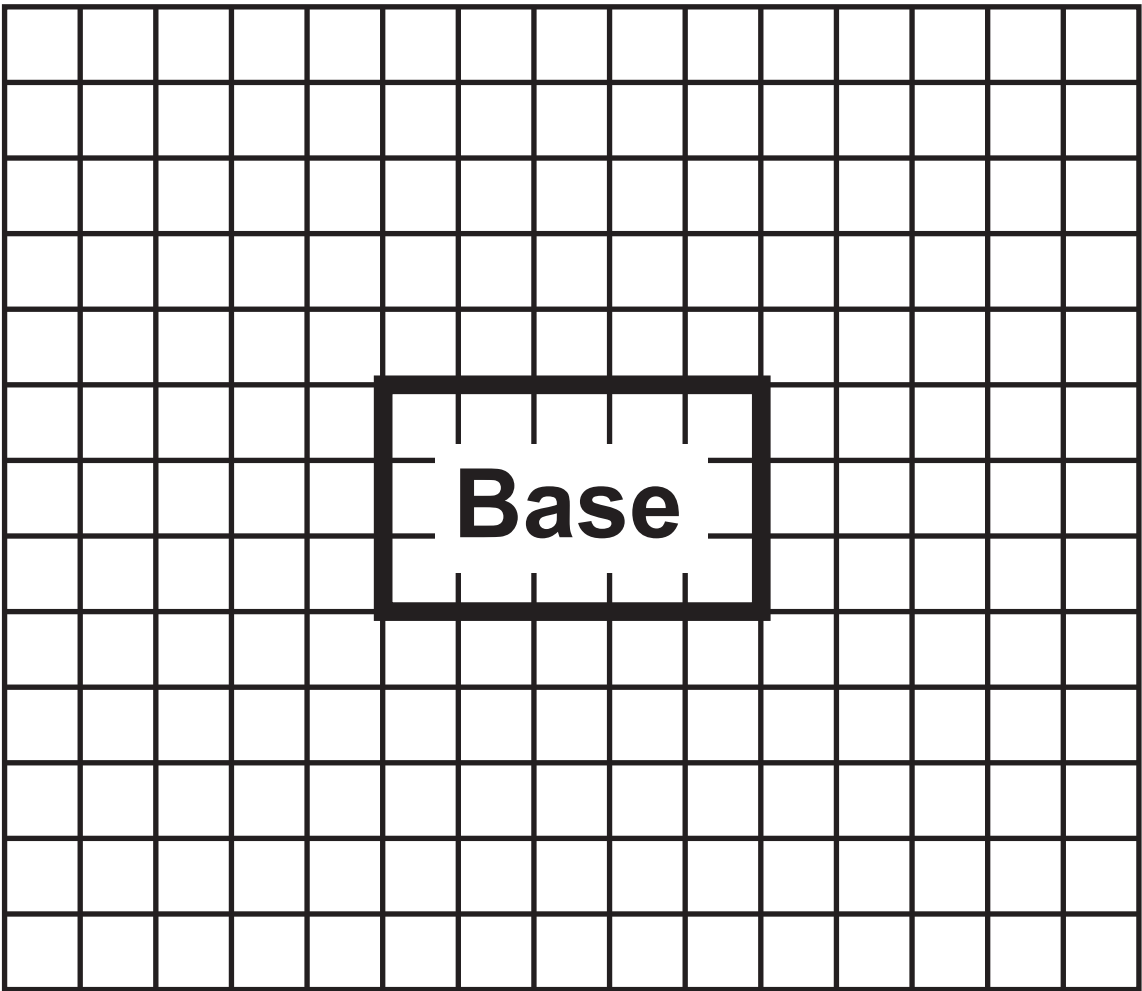
Rod B



Question 7

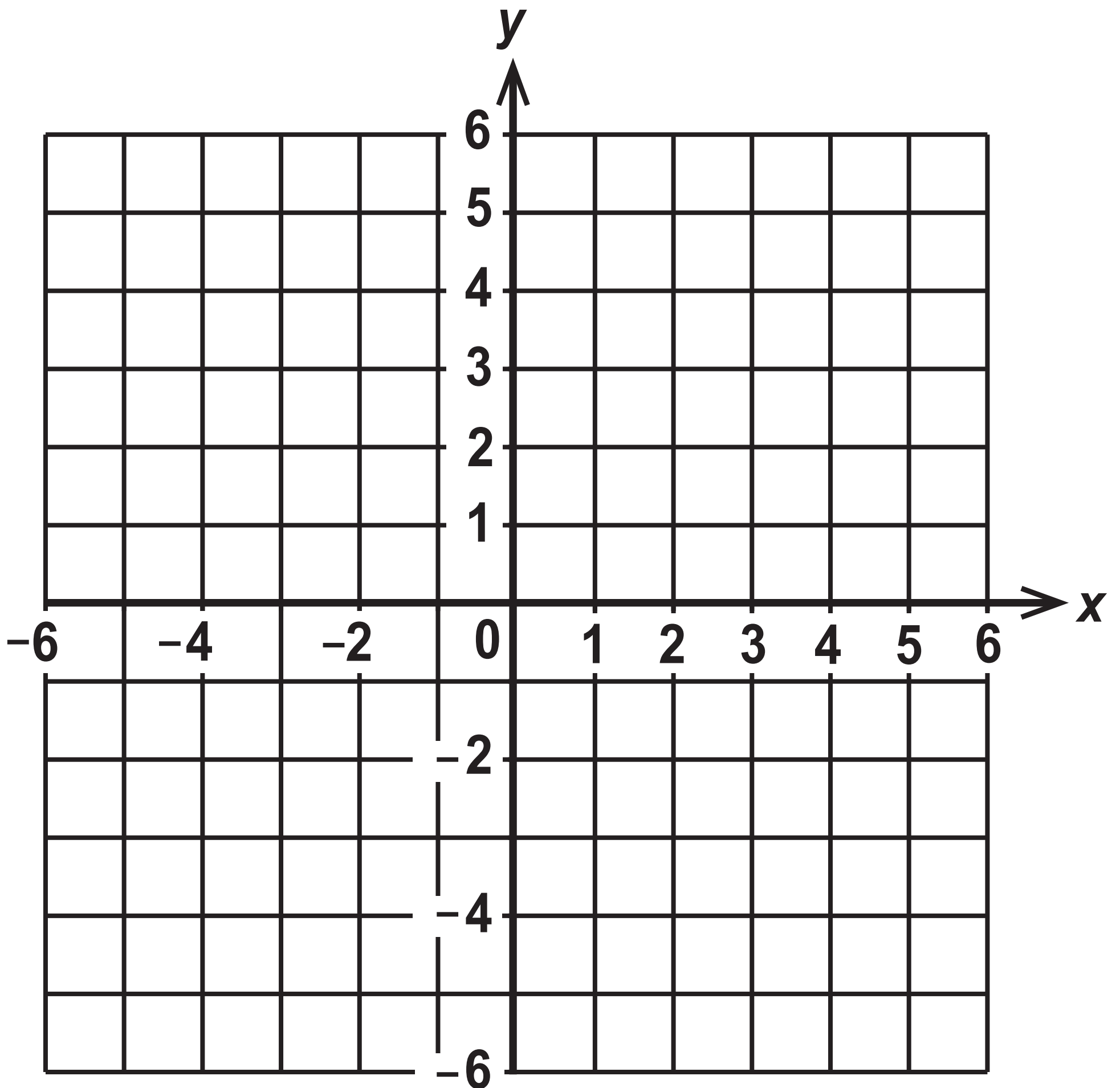


Question 9



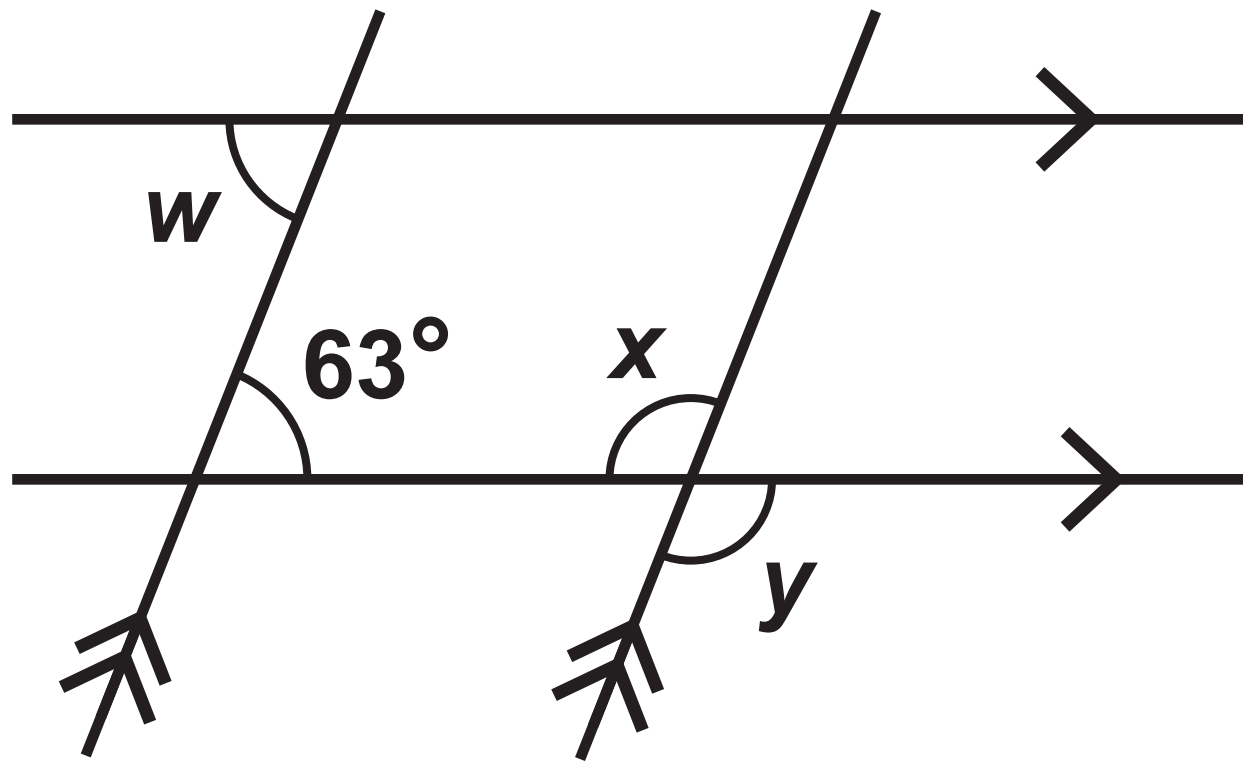
Question 10

Each square on the grid represents a one centimetre square.



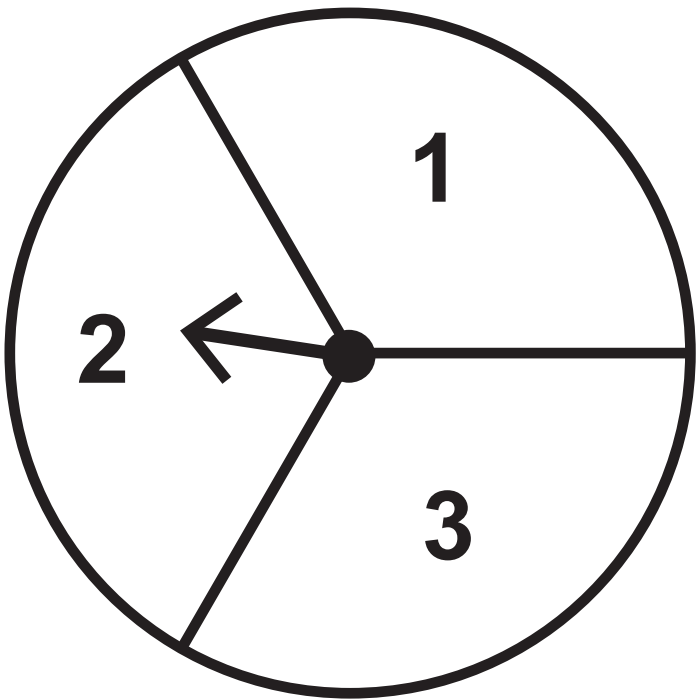
Question 17

Diagram NOT drawn to scale

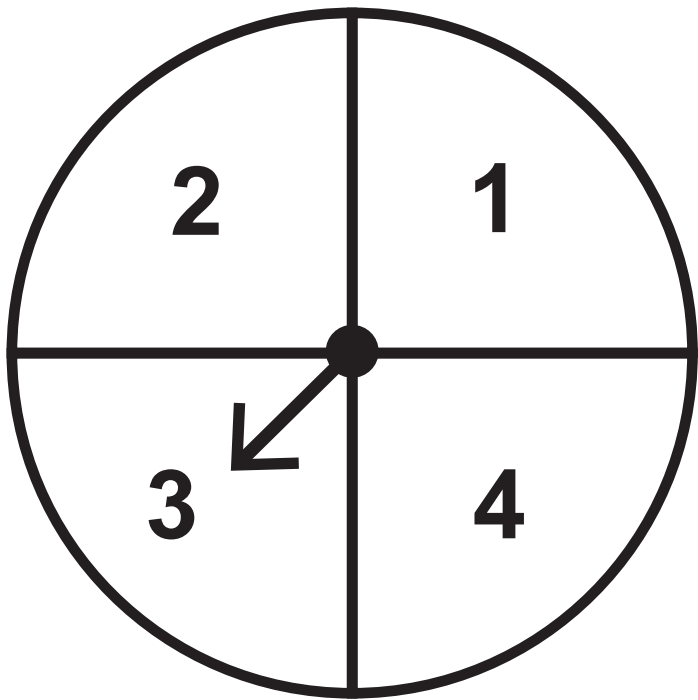


Question 18

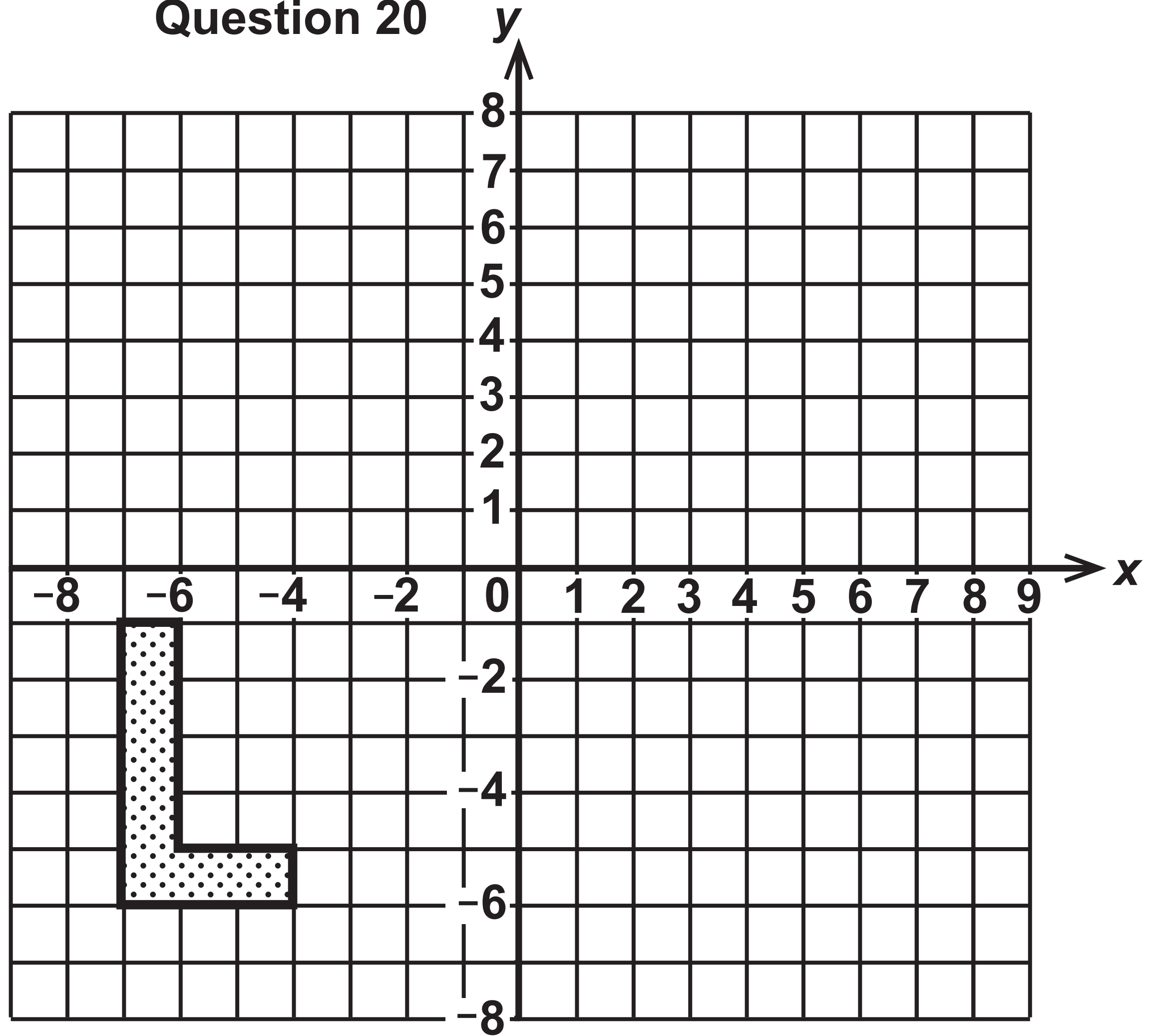
SPINNER A



SPINNER B



Question 20



**GCSE
MATHEMATICS
and
NUMERACY**



**FORMULA LIST
FOUNDATION TIER
GCSE**

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

