



GCSE

3300U20 – 1

WEDNESDAY, 13 NOVEMBER 2024 – MORNING

MATHEMATICS

UNIT 2: CALCULATOR – ALLOWED

FOUNDATION TIER

1 hour 30 minutes plus your additional time allowance

A CALCULATOR WILL BE REQUIRED FOR THIS EXAMINATION

Surname: _____

First name(s): _____

Centre Number: _____

Candidate Number: 0 _____

For Examiner's use only

Question	Maximum Mark	Mark Awarded
1.	4	
2.	4	
3.	3	
4.	3	
5.	2	
6.	4	
7.	5	
8.	2	
9.	5	
10.	1	
11.	5	
12.	4	
13.	4	
14.	4	
15.	5	
16.	2	
17.	4	
18.	4	
Total	65	

ADDITIONAL MATERIALS

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

ITEMS INCLUDED WITH QUESTION PAPER

A separate Formula List.

A separate Diagram Booklet.

Shapes for Question 17 (a) and Question 17 (b).

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

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 this booklet, taking care to number the question(s) correctly.

Take π as $3 \cdot 14$ or use the π button on your calculator.

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

1. Complete the calculations below.

$$325 + \underline{\hspace{2cm}} = 1297$$

$$\underline{\hspace{2cm}} - 694 = 149$$

$$\underline{\hspace{2cm}} \times 53 = 4505$$

$$1344 \div \underline{\hspace{2cm}} = 21$$

[4 marks]

(Turn over)

2. (a) Write down, in figures, the number four hundred thousand, one hundred and eight.

[1 mark]

- (b) Stef uses each of the digits 4, 5, 9 and 3 to make a four – digit number.

What is the largest number that she can make that is a multiple of 5?

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[1 mark]

- (c) Write down ALL the factors of 20

[2 marks]

(Turn over)

3. Cerys chooses a card at random from three different sets of four cards.

In each part, WRITE NUMBERS ON THE FOUR CARDS to make the statement true.

- (a) It is impossible that the card Cerys chooses will be a 7

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[1 mark]

- (b) It is likely that the card Cerys chooses will be a 7

--	--	--	--

[1 mark]

continued on the next page . . .

(Turn over)

Question 3 continued

3. (c) There is an even chance that Cerys chooses a number less than 7

--	--	--	--

[1 mark]

4. In the grid below:

- each column must add to **150**
- each row must add to **150**

Complete the grid.

83		
45		88
	93	

(Turn over)

9

[3 marks]

(Turn over)

5. Sophie says,

**“5 minutes 8 seconds is double
2 minutes 54 seconds.”**

Is Sophie correct?

YES

NO

You must show working to support your answer.

[2 marks]

(Turn over)

6. Look at the table for Question 6 in the separate Diagram Booklet. Complete the table so that each row shows an equivalent fraction, decimal and percentage.

The first row has been completed for you.

[4 marks]

(Turn over)

[3 marks + 2 marks OCW]

8. Use the formula $T = 4A + 8B$ to find the value of T when $A = 45$ and $B = 19$

[2 marks]

(Turn over)

9. (a) Tomos wants to find the median of the numbers below.

7 1 20 14 11

He writes the answer 20

EXPLAIN why Tomos's answer is incorrect.

[1 mark]

continued on the next page . . .

Question 9 continued

9. (b) Ted writes down five numbers:

59 89 77 31 83

(i) Calculate the mean of Ted's numbers.

[3 marks]

**(ii) Every number in Ted's list is decreased by 3
What is the mean of the numbers in his
new list?**

[1 mark]

(Turn over)

10. Abby is asked how many quarters there are in 8

She writes $8 \div 4 = 2$

EXPLAIN why Abby's method is incorrect.

[1 mark]

11. (a) Look at the diagram for Question 11 (a) in the separate Diagram Booklet. The diagram is NOT drawn to scale. The diagram shows a triangle labelled ABC .

In the diagram:

$$\text{Angle } ABC = 62^\circ$$

$$\text{Angle } CAB = x$$

Calculate the size of angle X .

$$x = \underline{\hspace{2cm}}^\circ$$

[2 marks]

continued on the next page . . .

(Turn over)

Question 11 continued

11. (b) Look at the diagram for Question 11 (b) in the separate Diagram Booklet. The diagram is NOT drawn to scale. The diagram shows a quadrilateral labelled *PQRS*.

In the diagram:

QRT is a straight line

Angle *PQR* = 115°

Angle *PSR* = 60°

Angle *TRS* = 78°

Angle *QPS* = *y*

Calculate the size of angle *y*.

y = _____[°]

[3 marks]

(Turn over)

13. (a) Calculate the following.

$$\frac{17}{50} \text{ of } 24 \cdot 5 + 78\% \text{ of } 103 \cdot 5$$

You must show all your working.

[2 marks]

continued on the next page . . .

(Turn over)

Question 13 continued

13. (b) Express **£19.44** as a percentage of **£36**

[2 marks]

(Turn over)

14. Look at the diagram for Question 14 in the separate Diagram Booklet.

The diagram shows 7 playing cards.

Megan has these 7 playing cards.

She turned the cards face down.

Megan then chose a card at random and recorded the number.

(a) What is the probability that Megan recorded the number 5?

Circle your answer.

$\frac{5}{7}$	$\frac{1}{7}$	1	5	$\frac{7}{5}$
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[1 mark]

continued on the next page . . .

(Turn over)

Question 14 continued

14. (b) (i) What is the probability that Megan recorded a square number?

Circle your answer.

$\frac{2}{5}$	$\frac{1}{7}$	$\frac{2}{7}$	$\frac{4}{7}$	$\frac{4}{5}$
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[1 mark]

continued on the next page . . .

(Turn over)

Question 14 (b) continued

- 14. (b) (ii) Megan chooses a card at random 91 times.
How many times would you expect Megan to
record a square number?
You must show all your working.**

[2 marks]

15. Solve each of the following equations.

(a) $3y - 5 = 19$

[2 marks]

continued on the next page . . .

(Turn over)

Question 15 continued

15. (b) $8p + 5 = 3p - 25$

[3 marks]

continued on the next page . . .

(Turn over)

**Olga put _____ more yellow counters
into the bag**

[2 marks]

17. (a) Look at the diagram for Question 17 (a) in the separate Diagram Booklet. The diagram shows a triangle on a coordinate grid.

Rotate the triangle through 90° clockwise, about the origin.

A cut out triangle is provided for this question.

[2 marks]

- (b) Look at the diagram for Question 17 (b) in the separate Diagram Booklet. The diagram shows a triangle on a coordinate grid.

Reflect the triangle in the line $x = -2$

A cut out triangle is provided for this question.

[2 marks]

[4 marks]

END OF PAPER

TOTAL 65 MARKS

(Turn over)



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

Diagram Booklet

Surname: _____

First name(s): _____

Centre Number: _____

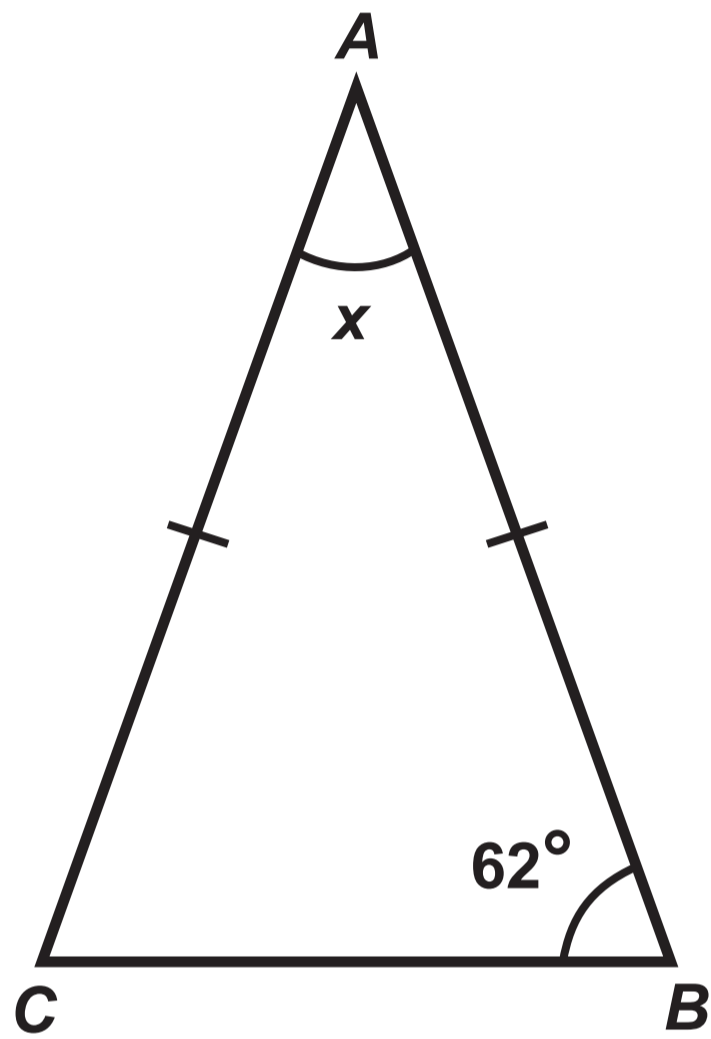
Candidate Number: 0 _____

Question 6

Fraction	Decimal	Percentage
$\frac{1}{4}$	0.25	25%
$\frac{9}{10}$	_____	_____ %
$\frac{\quad}{20}$	_____	15%

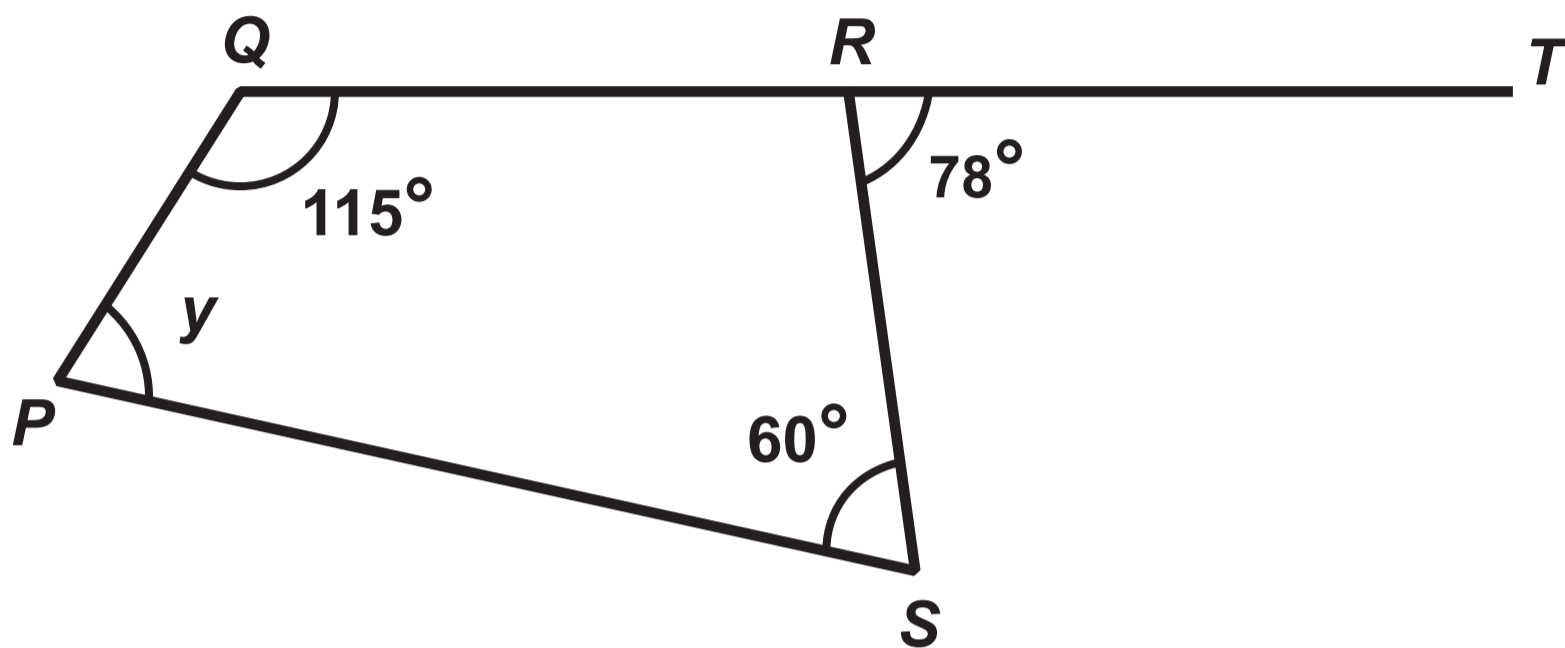
Question 11 (a)

Diagram NOT drawn to scale

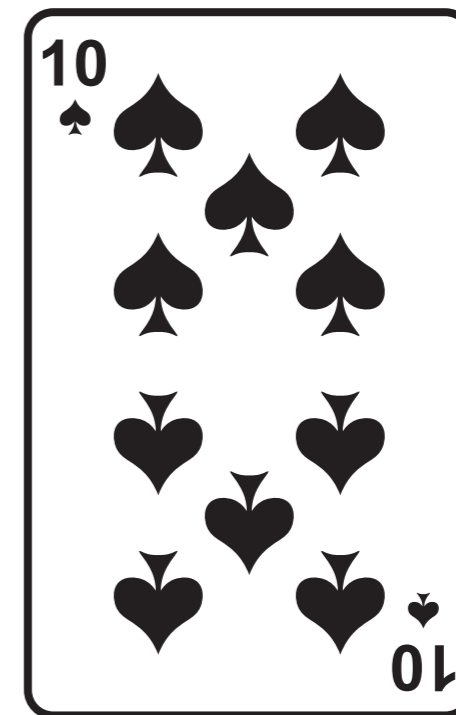
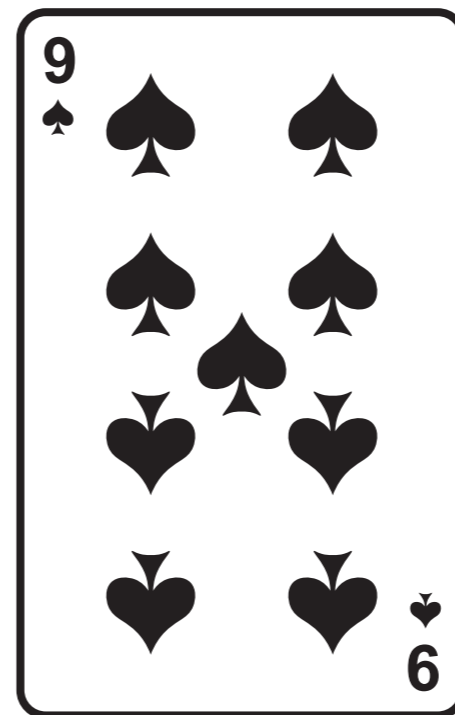
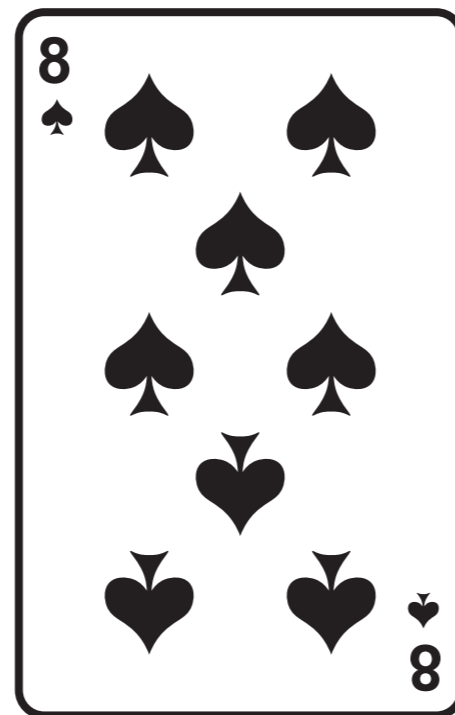
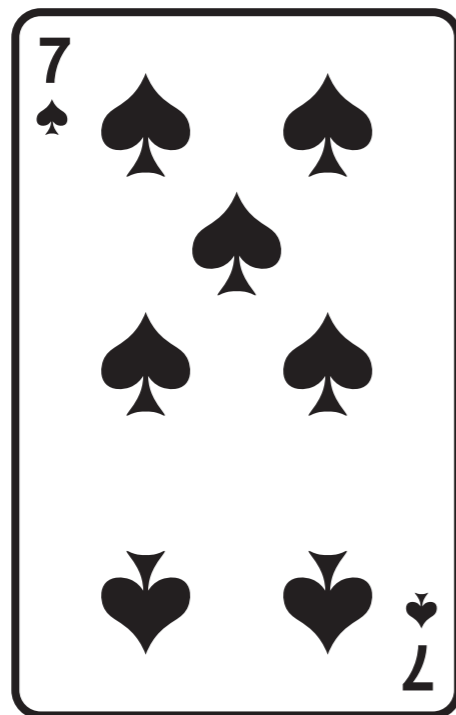
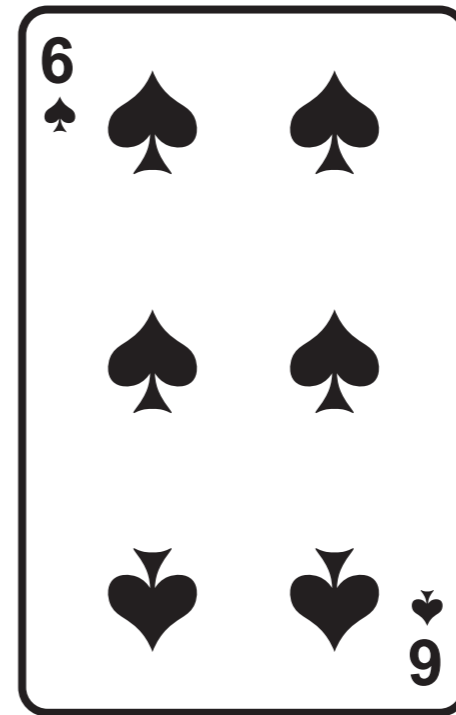
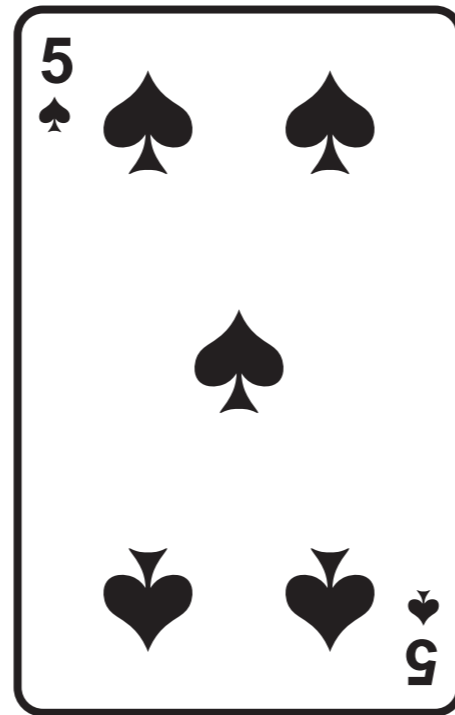
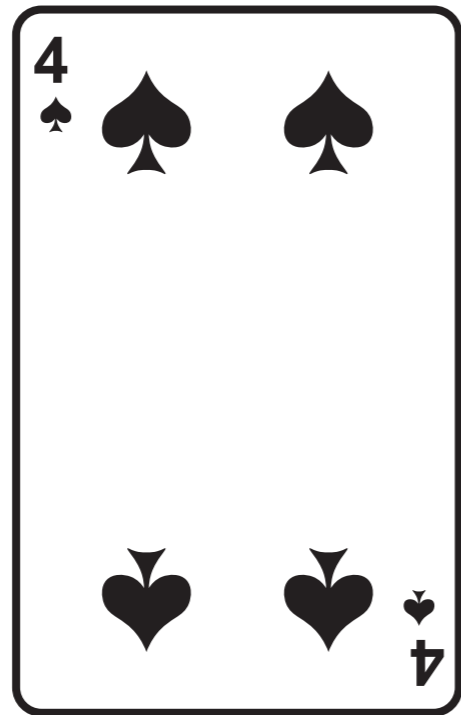


Question 11 (b)

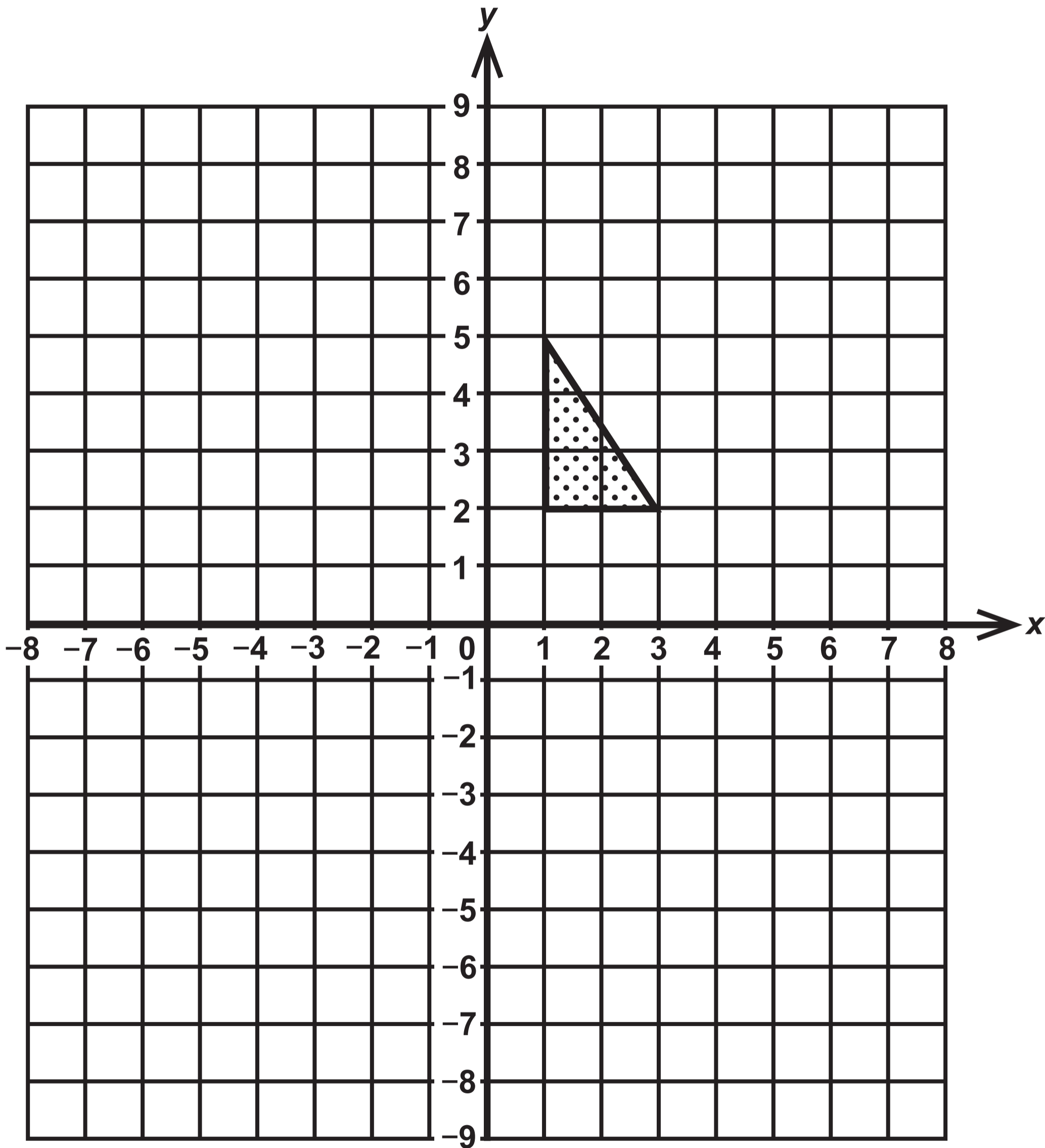
Diagram NOT drawn to scale



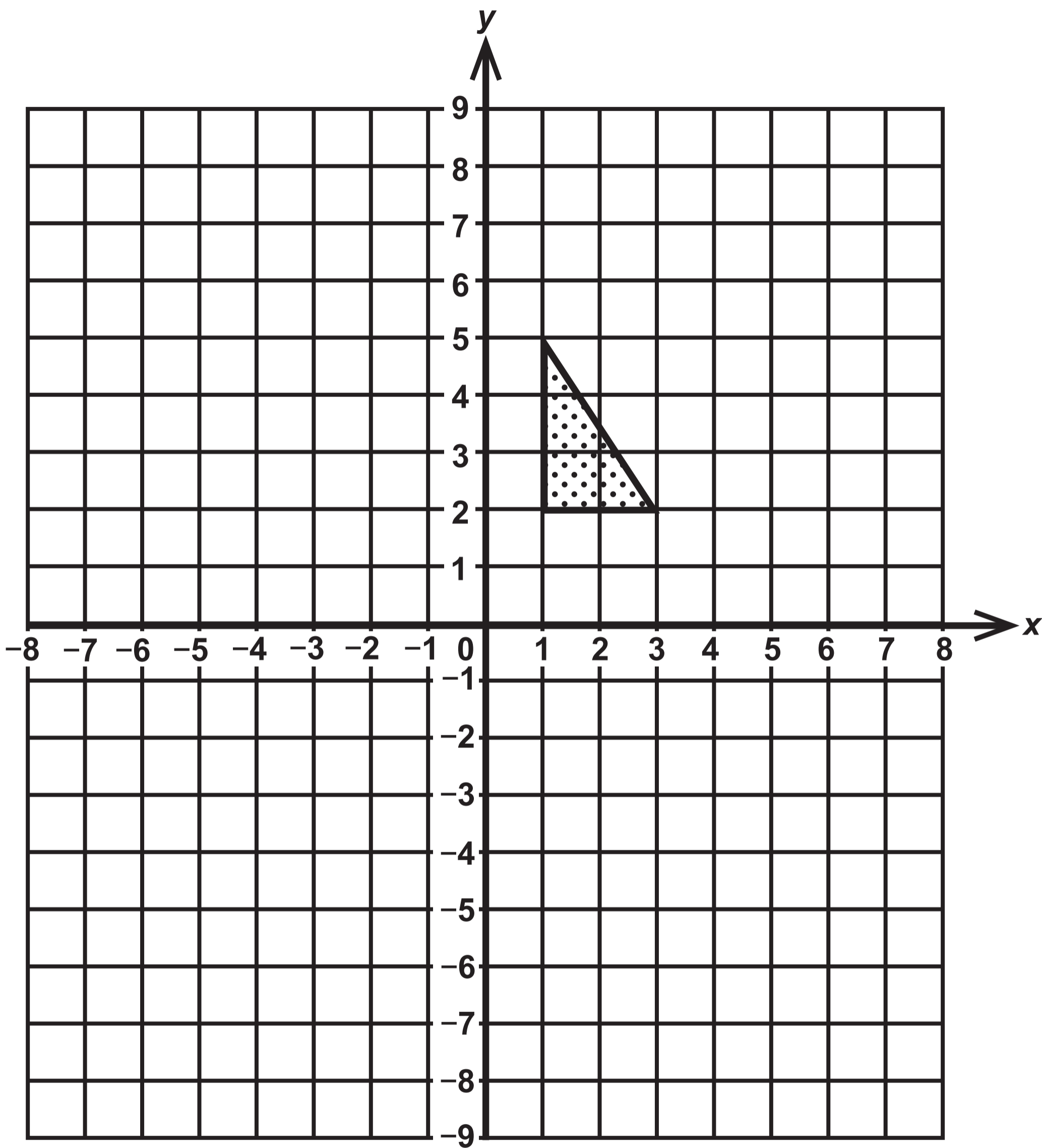
Question 14



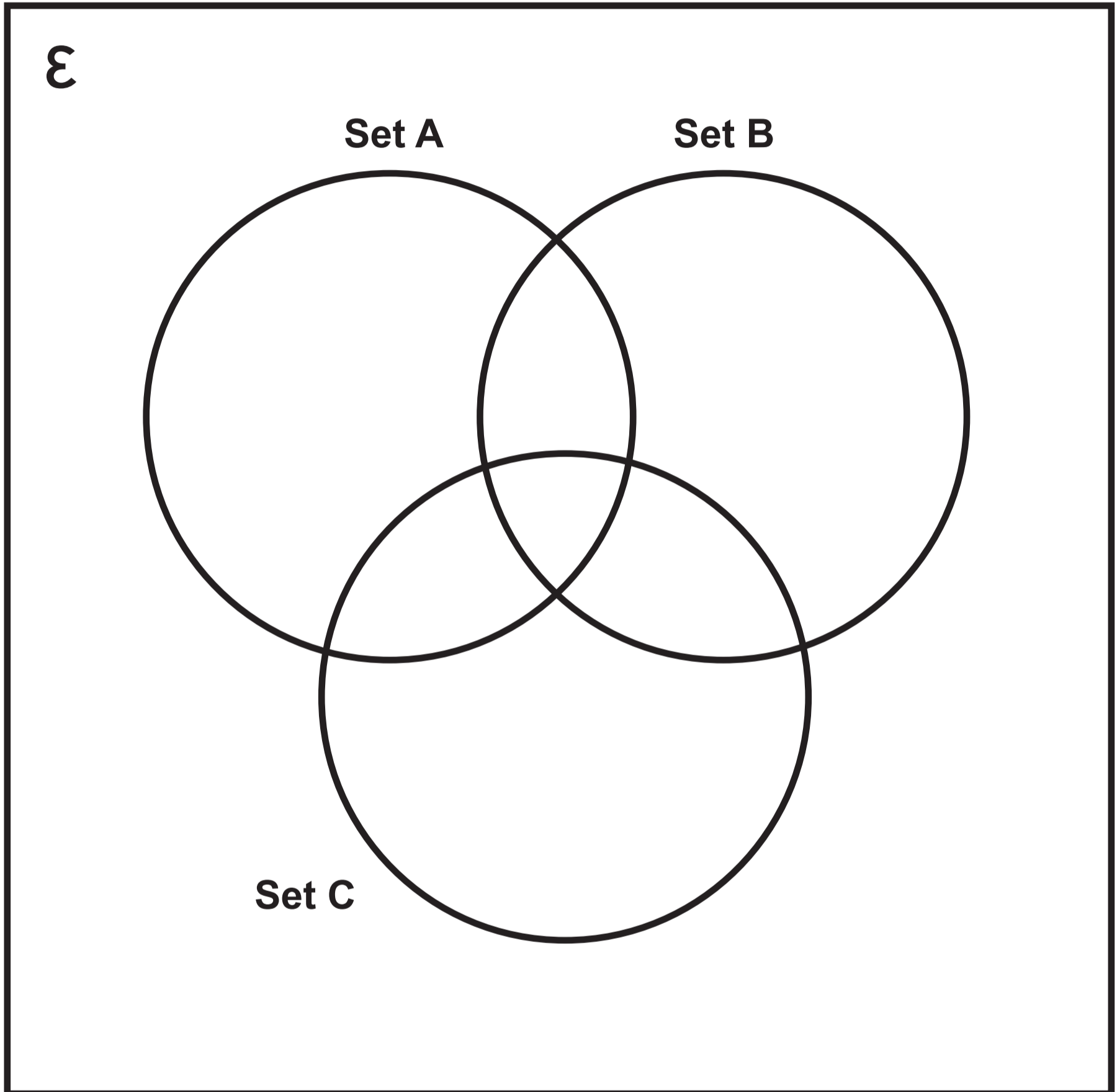
Question 17 (a)



Question 17 (b)



Question 18



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MATHEMATICS – NUMERACY**

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

