GCSE

3300U10 – 1

MONDAY, 11 NOVEMBER 2024 – 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.	2	
2.	3	
3.	2	
4.	3	
5.	4	
6.	5	
7.	5	
8.	3	
9.	3	
10.	2	
11.	5	
12.	2	
13.	5	
14.	4	
15.	4	
16.	6	
17.	4	
18.	3	
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.

Model for Question 14.

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 $3 \cdot 14$

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 linguistic and mathematical organisation, communication and accuracy in writing.

1. (a) Look at the diagram for Question 1 (a) in the separate Diagram Booklet. On the diagram, put a cross (X) at the midpoint of AB.

[1 mark]

(b) Look at the diagram for Question 1 (b) in the separate Diagram Booklet. On the diagram, draw a line through the point K that is perpendicular to MN.

[1 mark]

2. (a) Write down the value of the 3 in the number 532 719

[1 mark]

(b) Add the numbers 865 and 92 and 407

[1 mark]

(c) Subtract 647 from 1029

[1 mark]

3. (a) Which is the best metric unit for measuring the mass of a pencil?

Circle the correct answer.

kilograms
grams
tonnes
centimetres
milligrams

[1 mark]

continued on the next page . . .

Question 3 continued

3. (b) Which is the best metric unit for measuring the distance from Swansea to Wrexham? Circle the correct answer.

millimetres
metres
kilometres
litres
kilograms

[1 mark]

4. (a) Look at the diagram for Question 4 (a) in the separate Diagram Booklet. The diagram shows the line *EF*.

On the diagram draw angle *DEF* = 55°

[1 mark]

(b) Dafydd draws an acute angle.

The angle is the same size as half a right angle.

What is the size of the acute angle?

_____

_____

The size of the acute angle is _____ °

[2 marks]

5. (a) Write 25 378 correct to the nearest 100

[1 mark]

(b) Write down the next number in this sequence.

13, 25, 37, 49, _____

[1 mark]

(c) Divide 10 kg by 4

Give your answer in grams.

Answer is _____ g

[2 marks]

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

Look at the diagrams for Question 6 in the separate Diagram Booklet. The diagrams are NOT drawn to scale.

The first diagram shows a regular hexagon labelled Shape A.
The length of each side is 5 cm.

The second diagram shows a square labelled Shape B.
The length of each side is 7•5 cm.

Show that the perimeter of Shape A is equal to the perimeter of Shape B.
You must show all your working.

[3 marks + 2 marks OCW]

7. Look at the diagram for Question 7 in the separate Diagram Booklet. The diagram is a pie chart.

Mrs Lewis asked each student in Year 11 what kind of music they preferred.
She gave the students three options: Hip Hop, Pop and Rock.
The pie chart shows the results.

(a) Mrs Lewis chooses one of the students at random.
What is the probability that this student chose Hip Hop?

_____

_____

_____

[1 mark]

(b) 45 students chose Hip Hop.
How many students are there in total?

_____

_____

_____

[2 marks]

continued on the next page . . .

Question 7 continued

7. (c) What fraction of these students chose Pop?

_____

_____

_____

[2 marks]

8. (a) Solve $7x = 63$

[1 mark]

(b) Solve $27 - x = 19$

[1 mark]

(c) Simplify $17k - 8k + 5k$

[1 mark]

9. (a) Write these numbers in order in the boxes below.
Start with the smallest number.

3 −17 12 −6

Smallest ⟶ Largest

[1 mark]

(b) Look at the diagram for Question 9 (b) in the separate Diagram Booklet. The diagram shows a number line.
Which number is the arrow pointing to?

The number is _____

[1 mark]

(c) Calculate –13 + (–19)

_____

_____

_____

[1 mark]

10. Look at the diagram for Question 10 in the separate Diagram Booklet. The diagram shows a probability scale.

Jan has 7 carrots and 3 potatoes in a box.

She chooses one vegetable at random from the box.

On the probability scale, mark the points C and P, where:

- **C is the probability of Jan choosing a carrot**
- **P is the probability of Jan choosing a potato.**

[2 marks]

11. Look at the diagram for Question 11 in the separate Diagram Booklet.

The diagram shows a number machine.

Complete the table below.

INPUT	OUTPUT
–7	
	–100
2 • 5	
n	

Space for working:

[5 marks]

12. **ESTIMATE the value of 33×7940**

You must show your approximations in your working.

[2 marks]

13. Bethan has two brothers, Andrew and Richard.

Andrew is 7 years older than Bethan.
Richard is 3 years older than Andrew.

(a) Today, the sum of all their ages is 59 years.
How old are Bethan, Andrew and Richard today?

continued on the next page . . .

Question 13 (a) continued

Bethan = _____ years old

Andrew = _____ years old

Richard = _____ years old

[2 marks]

continued on the next page . . .

Question 13 continued

13. (b) (i) Write down the ratio of Andrew's age to Richard's age when Andrew is 27

Write the ratio in its simplest form.

Ratio of Andrew's age to Richard's age

= _____ : _____

[2 marks]

13. (b) (ii) Explain why the ratio of Andrew's age to Richard's age can never be 1 : 1

[1 mark]

14. Ask for the model for Question 14. It is a model of a solid.

The model is NOT to scale.

The top surface of the solid is labelled *ABCDEF.*

The height of the solid is 2 cm.

Look at the diagram for Question 14 in the separate Diagram Booklet. The diagram is NOT drawn to scale. The diagram shows the top surface of the solid and is labelled *ABCDEF.*

In the diagram:

***AB* = 12 cm**

***BC* = 12 cm**

***EF* = 5 cm**

***FA* = 16 cm**

Angles *ABC*, *BCD*, *DEF*, *EFA* and *FAB* are right angles.

Find the volume of the solid.

You must show all your working.

[4 marks]

15. Look at the diagram for Question 15 in the separate Diagram Booklet.

The diagram shows a coordinate grid.

Three of the four vertices of a parallelogram have the following coordinates.

(4, 3) (5, –1) (8, 3)

Plot these points on the coordinate grid.

Then, plot ALL THREE possible points for the fourth vertex.

Write down the coordinates of these three points.

_____

_____

_____

The THREE possible points for the fourth vertex are

(_____ , _____)

(_____ , _____)

(_____ , _____)

[4 marks]

16. Look at the diagrams for Question 16 in the separate Diagram Booklet. There are 3 diagrams.
Each diagram represents a balance. For each balance, the total mass on the left−hand side is equal to the total mass on the right−hand side.

Find the values of A, B and C.

A = _____ B = _____ C = _____

[6 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 shape with rotational symmetry of order 6

Find the size of angle *x*.

You must show all your working.

[4 marks]

18. Look at the diagram for Question 18 in the separate Diagram Booklet. The diagram is NOT drawn to scale. The diagram shows a trapezium labelled *ABCD.*

In the diagram:

***AB* = 8 cm**

***BC* = 9 cm**

***CD* = 10 cm**

***DA* = 15 cm**

AD* is parallel to *BC.

Angle *DAB* is a right angle.

Calculate the area of the trapezium shown.

You must give the units of your answer.

[3 marks]

END OF PAPER

TOTAL 65 MARKS

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

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GCSE

3310U10-1

TUESDAY, 5 NOVEMBER 2024 – MORNING

MATHEMATICS – NUMERACY

UNIT 1: NON – CALCULATOR

FOUNDATION TIER

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

Diagram Booklet

Surname: _____

First name(s): _____

Centre Number: _____

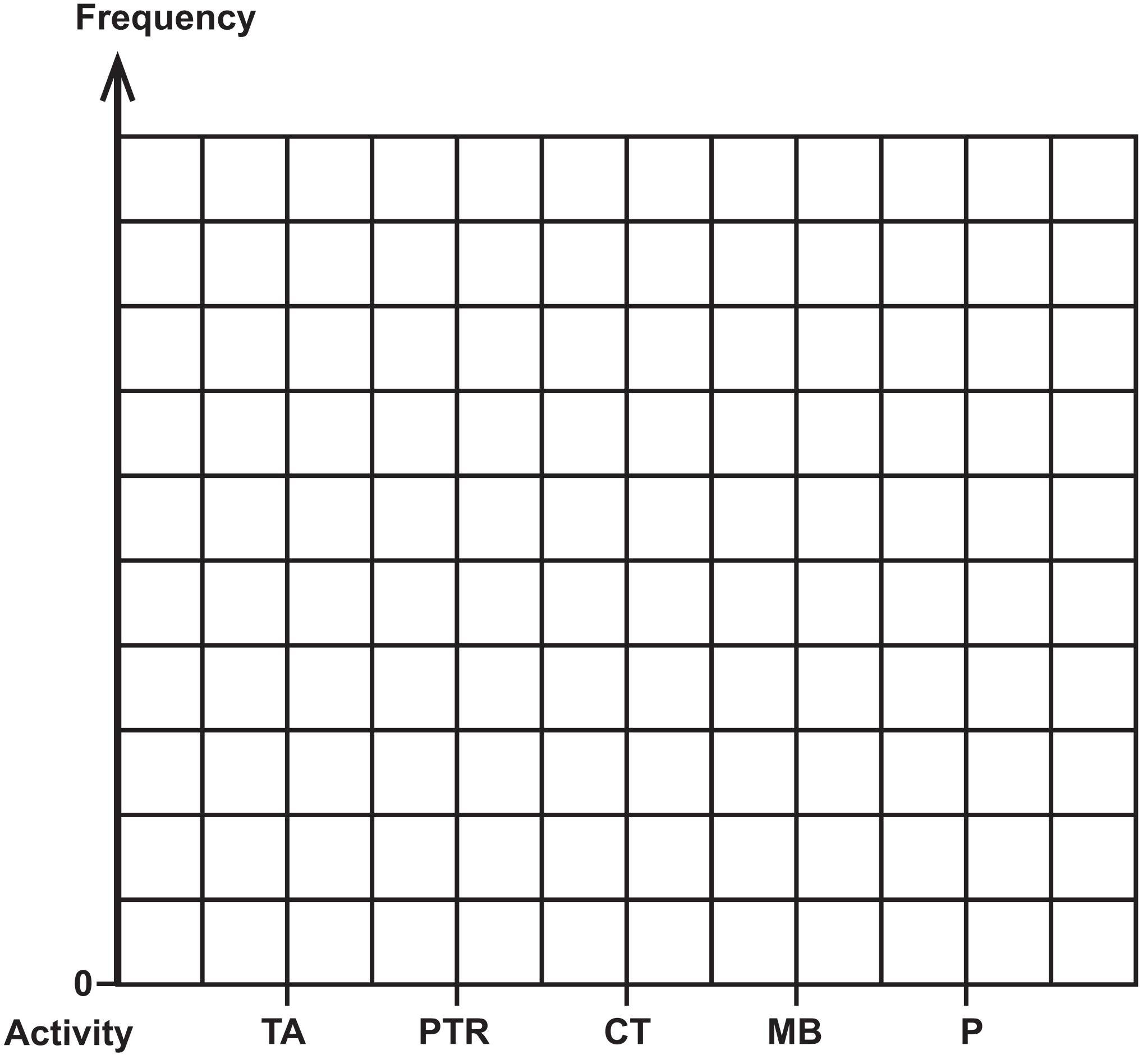
Candidate Number: 0_____

Question 1 (a)

Activity	Tally	Frequency
Tree – top adventure	𝍸 𝍸 |	
Park train ride	|||	
Castle tour	𝍸 |	
Mountain biking	𝍸 𝍸 |||	
Playground	𝍸 𝍸 𝍸	

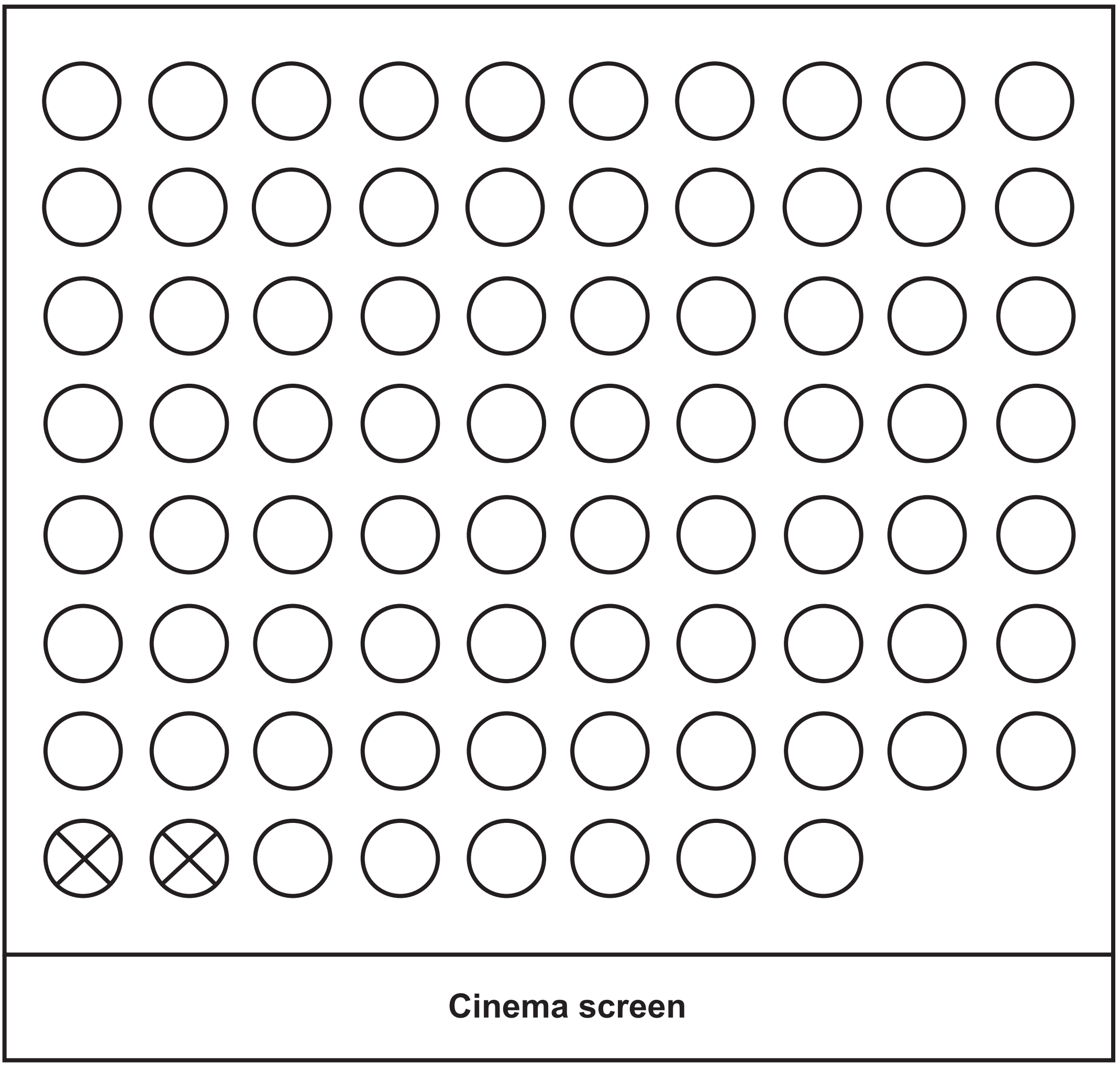
Question 1 (a) (iii)

Key: TA = Tree – top adventure
PTR = Park train ride
CT = Castle tour
MB = Mountain biking
P = Playground



Question 2 (b)

Key: ○ **cinema seat**



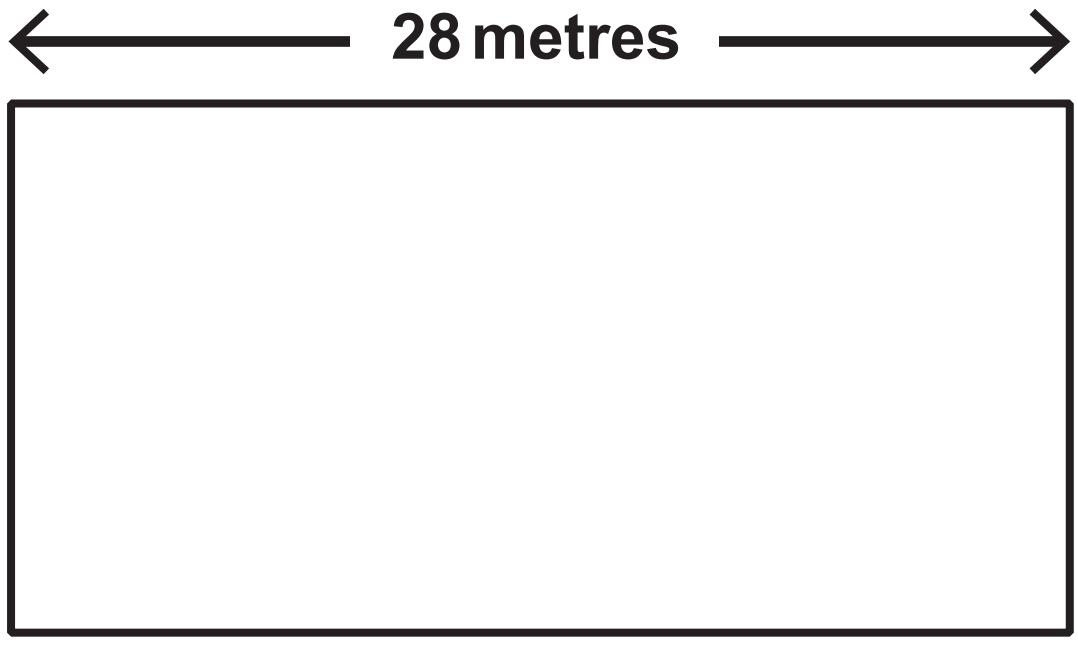
Question 2 (c)

Drinks		Snacks	
Small soft drink	£2.99	Regular popcorn	£4.95
Regular soft drink	£3.29	Large popcorn	£5.45
Large soft drink	£3.59	Nachos	£6.00

Combos			
Classic Combo: (regular soft drink & regular popcorn)	£6.99	Deluxe Combo: (large soft drink & large popcorn)	£7.60

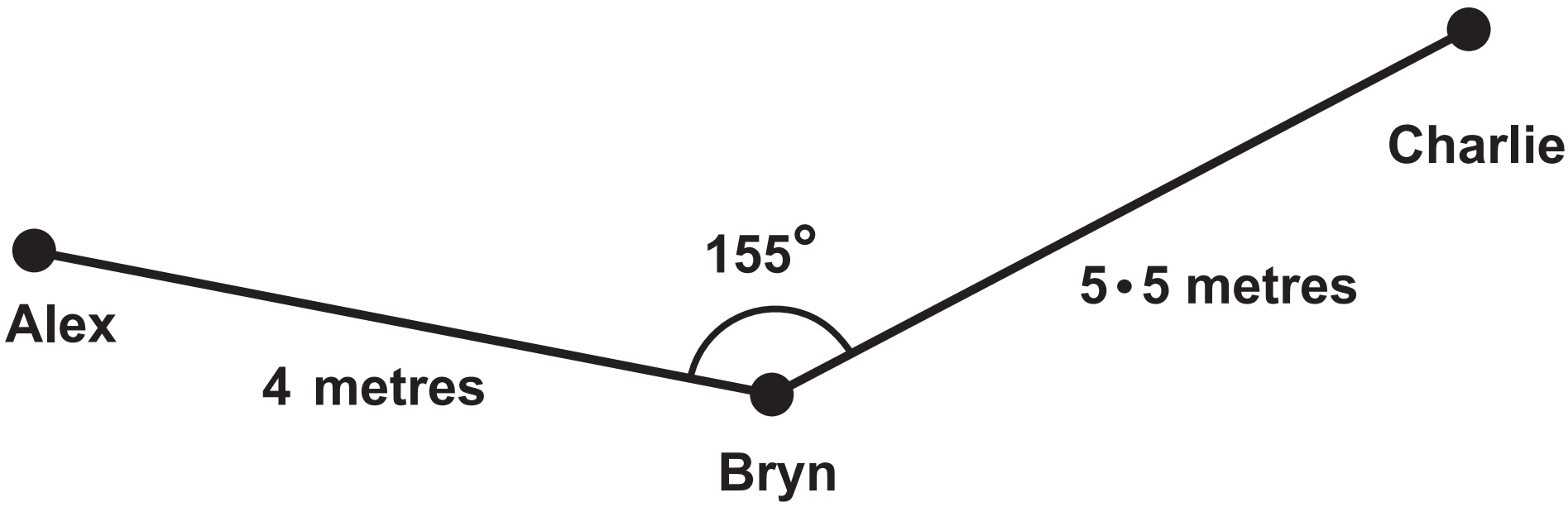
Question 3 (c)

Diagram IS drawn to scale



Question 3 (d)

Diagram NOT drawn to scale

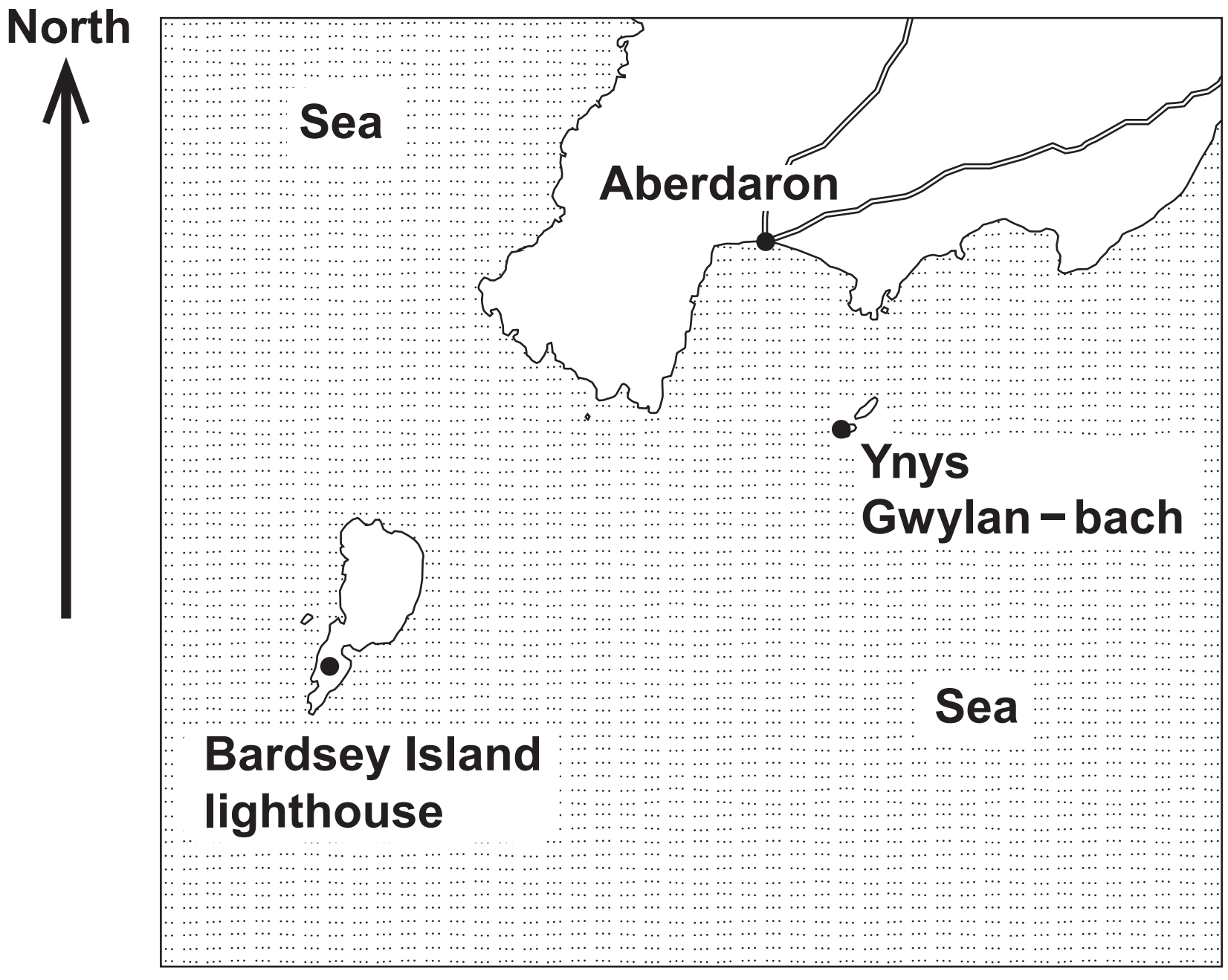


Question 3 (d) (ii)

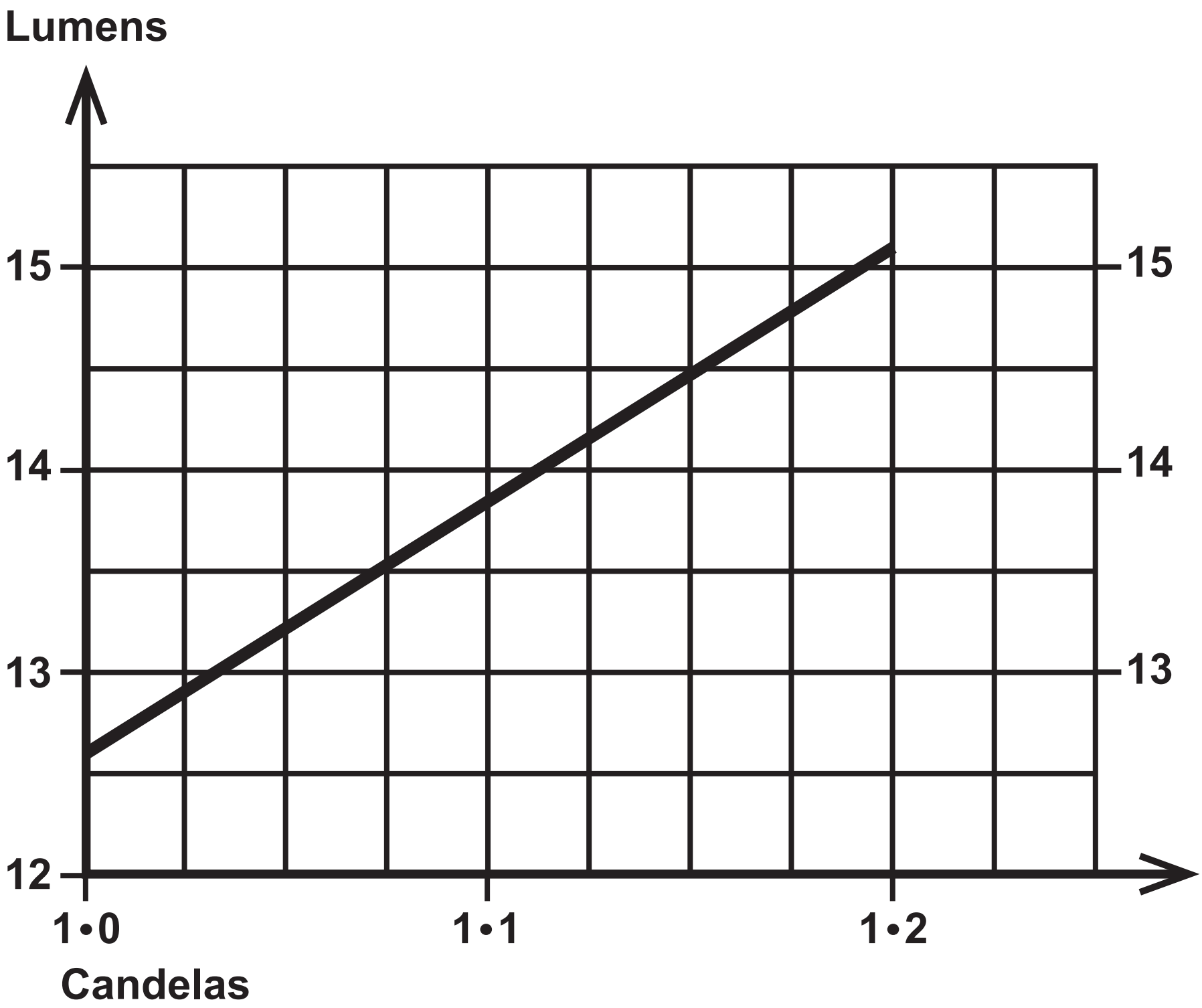
Diagram drawn to scale

Scale: 1 cm = 0•5 metres

Question 4 (a)


North
Sea
Aberdaron
Ynys
Gwylan – bach
Sea
Bardsey Island
lighthouse

Question 4 (b)

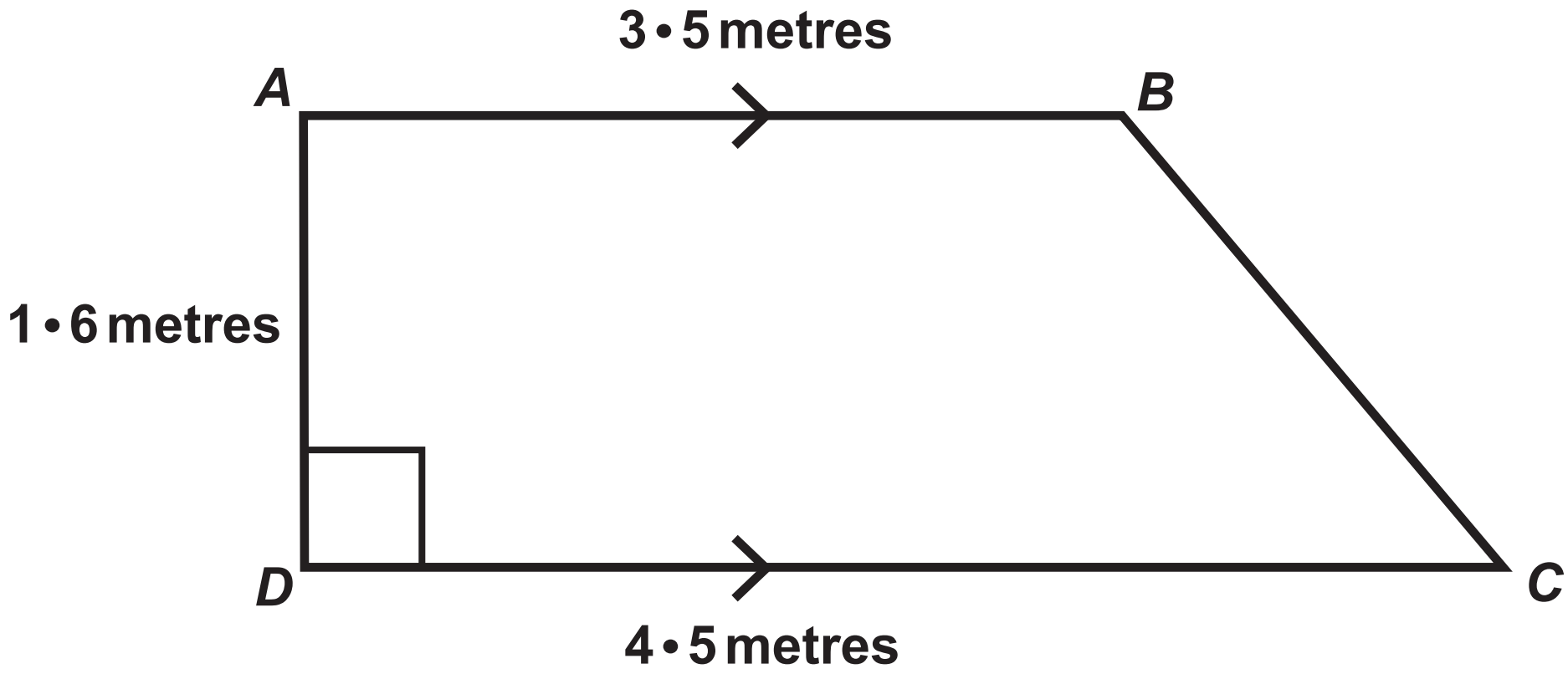


Question 6 (b)

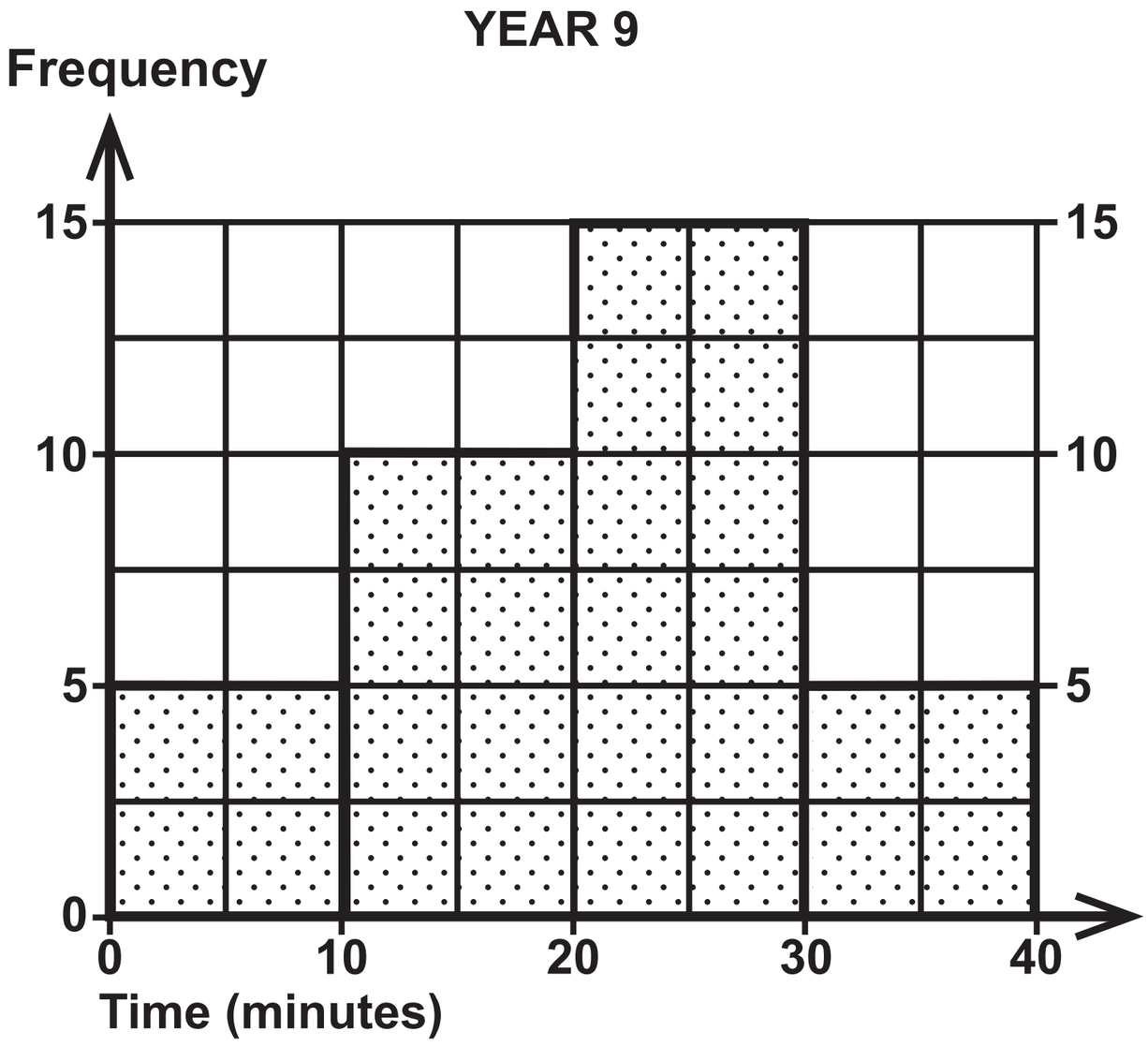
Bee Flower Mix 1 g packet of seeds £2.49	Cornfield Flower Mix 5 g packet of seeds £15	Butterfly Flower Mix 3 g packet of seeds £7.20

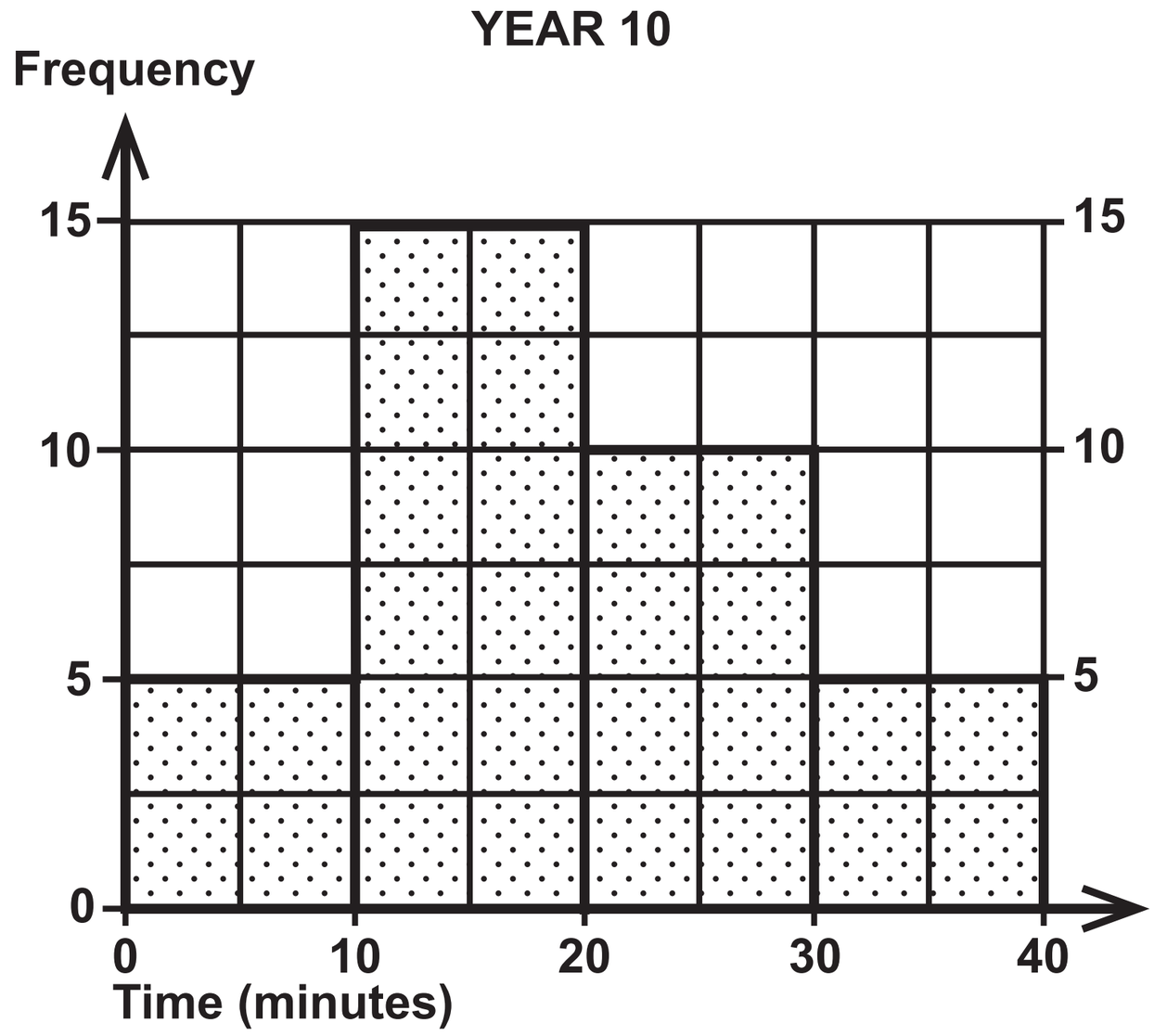
Question 6 (c)

Diagram NOT drawn to scale



Question 7


YEAR 9
Frequency
15
10
5
0
0
10
20
30
40
Time (minutes)


YEAR 10
Frequency
15
10
5
0
0
10
20
30
40
Time (minutes)

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MATHEMATICS

and

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