

Surname	Centre Number	Candidate Number
First name(s)		0



GCSE

3310U20-1



WEDNESDAY, 4 JUNE 2025 – MORNING

**MATHEMATICS – NUMERACY
UNIT 2: CALCULATOR-ALLOWED
FOUNDATION TIER**

1 hour 30 minutes

ADDITIONAL MATERIALS

A calculator will be required for this paper.
A ruler, a 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 the 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 4(a), the assessment will take into account the quality of your linguistic and mathematical organisation, communication and accuracy in writing.

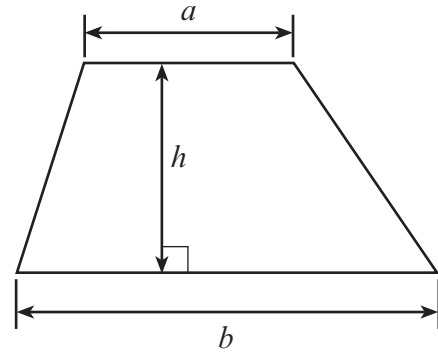
For Examiner's use only		
Question	Maximum Mark	Mark Awarded
1.	3	
2.	6	
3.	13	
4.	11	
5.	1	
6.	5	
7.	8	
8.	2	
9.	4	
10.	4	
11.	8	
Total	65	



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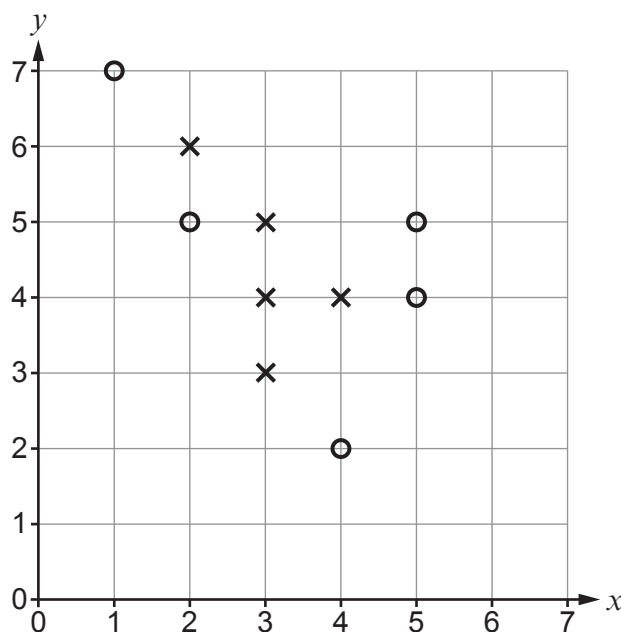
Formula List – Foundation Tier

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



1. Emma and Nathan play a game on a coordinate grid. Emma uses crosses and Nathan uses circles. Emma goes first. To win the game, a player must get 4 crosses or 4 circles together in a line. The line can be horizontal, vertical or diagonal.

The grid below shows the positions of their crosses and circles after 5 turns each.



- (a) It is Emma's turn to put a cross on the coordinate grid.

Write down the coordinates of the 3 points where Emma could put a cross to win the game. [2]

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(.....,) and (.....,) and (.....,)

- (b) Unfortunately, Emma did not win the game on her next turn.

What is the chance of Nathan winning on his next turn?
Circle your answer. [1]

impossible unlikely even chance likely certain



2. Alyson opens a new bank account.

- (a) She receives a debit card.
To use her debit card, Alyson creates a 4-digit code.

Alyson uses all the following information to choose her 4 digits.

- All the digits are different.
- There are no even numbers.
- Two of the digits are multiples of 3.
- Two of the digits are factors of 10.
- All numbers are written in **descending** order.

Write down Alyson's 4-digit code in the boxes below.

[3]

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Alyson's 4-digit code:

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- (b) Alyson uses her new bank card to buy birthday presents for her son, Jamie.

She buys the following presents:

- a pair of football boots for £112.50
- a football shirt of his favourite team for £84.90.

She uses a £30 gift voucher as part of the payment for the presents.

Then, the sports shop gives Alyson a discount of 10% off the remaining amount.

What is the value of the 10% discount that Alyson gets?

[3]

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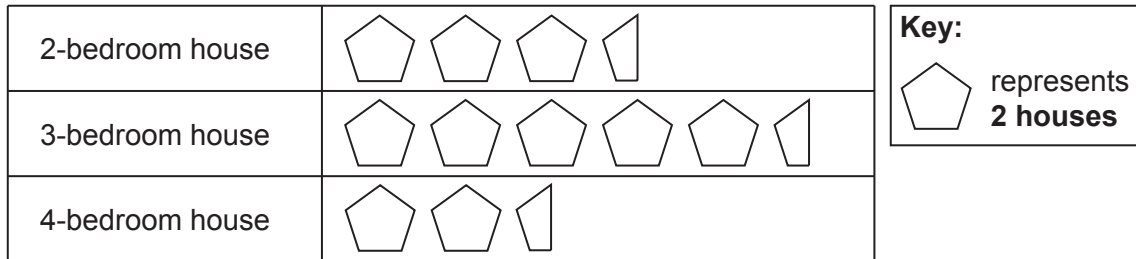
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Value of the 10% discount that Alyson gets = £



3. The pictogram shows information about the number of houses that are for sale on a new housing estate.



- (a) (i) How many 4-bedroom houses are there for sale on the new housing estate? [1]

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- (ii) Calculate the total number of **bedrooms** in all the 3-bedroom houses for sale on the estate. [2]

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- (b) The selling price of each type of house is given below.

Type of house	Selling price
2-bedroom house	£145 000
3-bedroom house	£179 000
4-bedroom house	£226 000

- (i) All the houses were sold at the selling prices shown in the table above.
Calculate the total amount of money paid for all the houses on the housing estate. [3]

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- (ii) What is the range of the selling prices of these houses? [1]

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- (c) The diagram below shows the ground-floor plan of a 3-bedroom house.

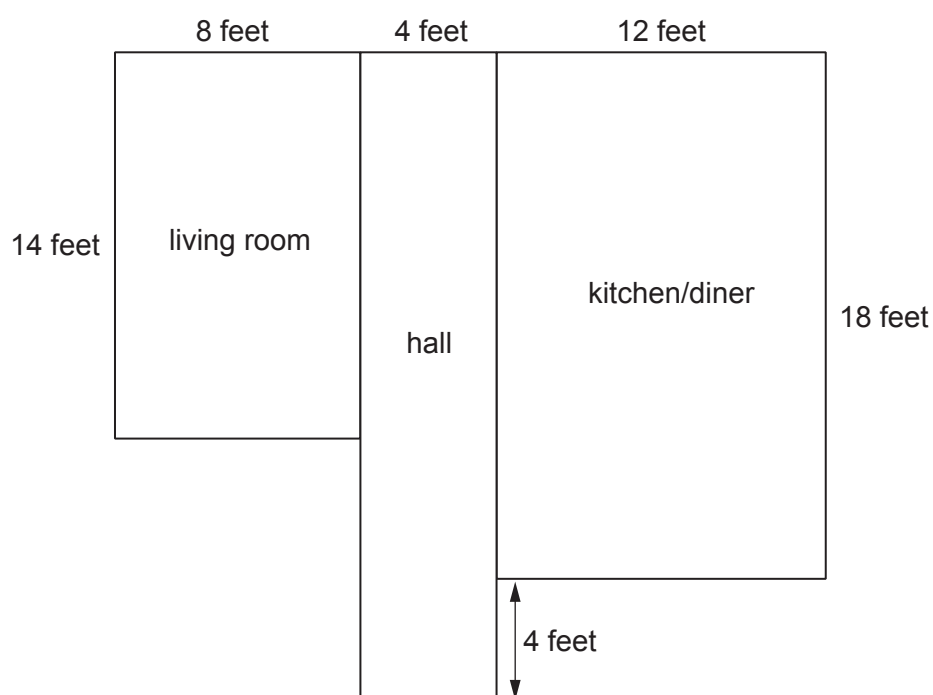


Diagram not drawn to scale

- (i) What is the total area of the ground floor of the 3-bedroom house?
Give your answer in square feet.

[3]

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Total area = square feet



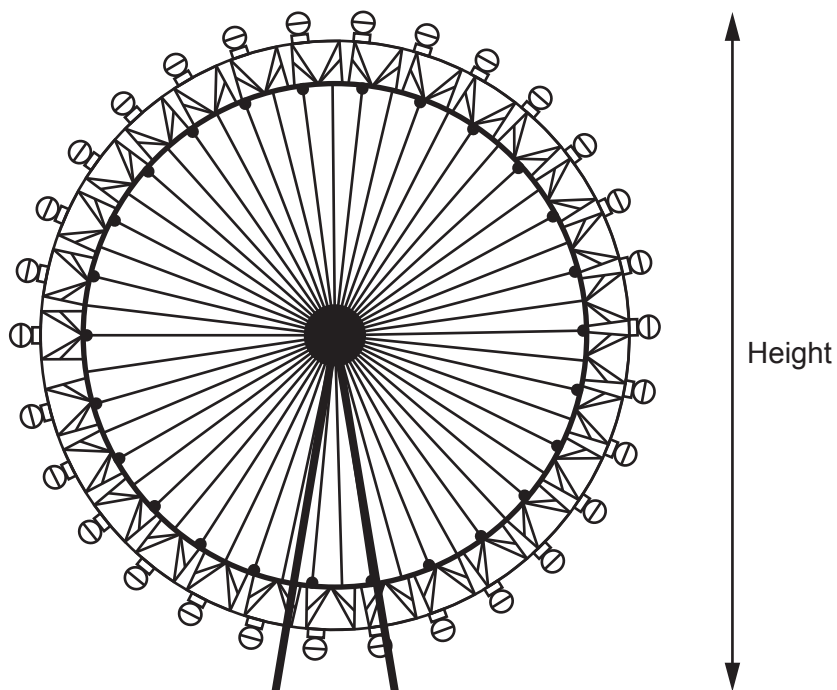
- (ii) On the 1 cm grid below, make an accurate scale drawing of the ground-floor plan of the 3-bedroom house.
Use a scale of **1 cm to represent 2 feet**. [3]



- (b) The diagram below is a **scale drawing** of the London Eye. The scale of the drawing is **1 cm represents 15 metres**.

Find the actual height of the top of the London Eye from the ground.
Give your answer in metres.

[3]



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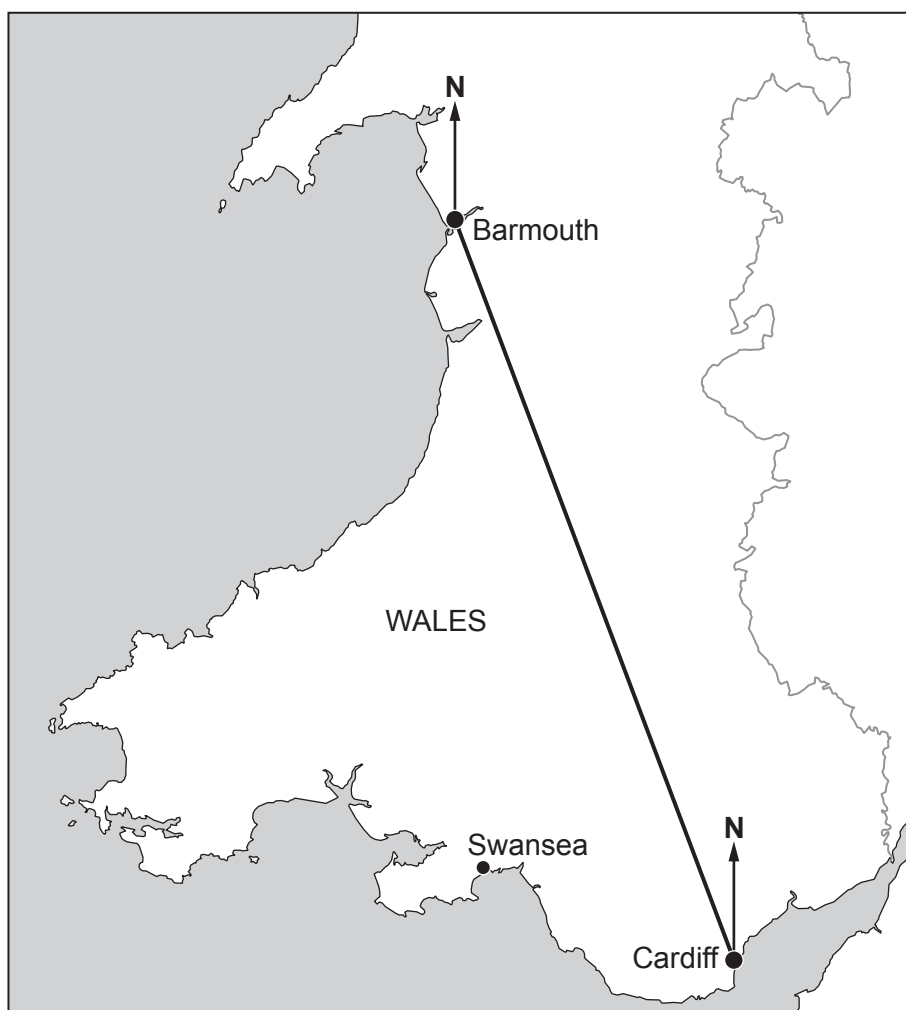
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Height of the London Eye = metres



5. A helicopter flies from Barmouth to Cardiff, as shown on the map below.



What is the bearing of Cardiff from Barmouth?

[1]

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6. Emir uses this recipe to make chocolate mousse.

Recipe for Chocolate Mousse

Serves 4 people

84g dark chocolate

16g cocoa powder

50g yoghurt

10g sugar

- (a) Emir is making chocolate mousse to serve 18 people.

Complete the following list of the quantities of ingredients that he needs.

[3]

..... g dark chocolate

..... g cocoa powder

..... g yoghurt

..... g sugar

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- (b) Express the following ratios in their simplest terms.

[2]

yoghurt : sugar = :

dark chocolate : cocoa powder = :

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8. The information below is shown on a bottle of sun cream:

One application of sun cream is 1 ounce.
Use 2 milligrams of sun cream to cover an area of 1 cm^2 of skin.

Use: 1 ounce $\approx$ 28 350 milligrams



Use this information to calculate the area of skin covered by one application of sun cream.
Give your answer in cm^2 .

[2]

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9. New roads are being built in a town.
The plan below shows the roads and the size of some of the angles between them.

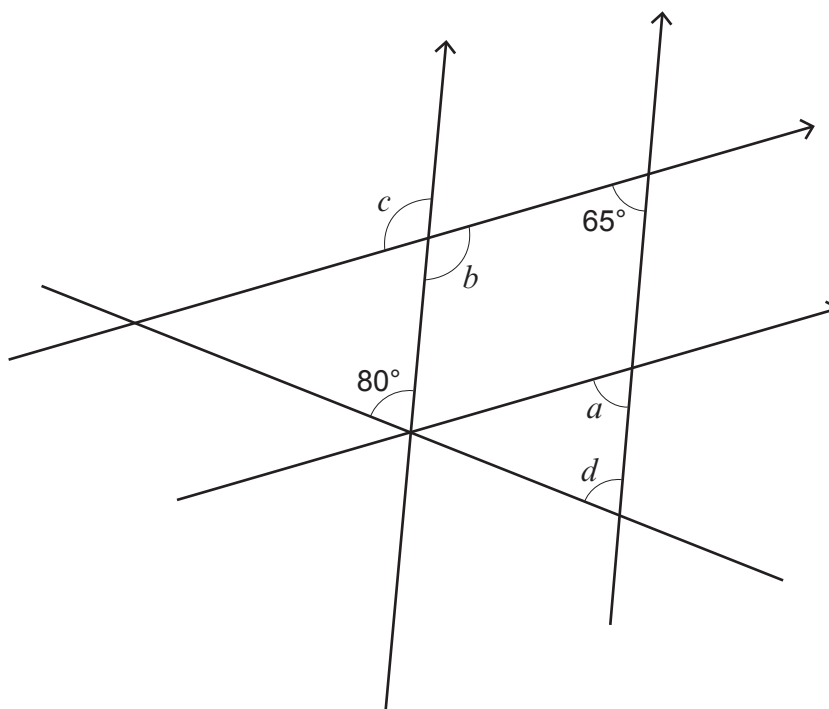


Diagram not drawn to scale

Calculate the size of each of the angles a , b , c and d .

[4]

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$a =$ $^{\circ}$ $b =$ $^{\circ}$ $c =$ $^{\circ}$ $d =$ $^{\circ}$



10. Nina sells flowers.

- (a) At the start of last week, Nina spent £600 buying flowers to sell.

By the end of the week, she had taken £1140 from the sale of the flowers.



Calculate Nina's percentage profit from the sale of these flowers.

[2]

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- (b) Nina wants to display her flowers.
She buys a glass vase from a website.



Cuboid

Diagram not drawn to scale

The vase is in the shape of a cuboid.
It can hold 1648 cm^3 of water when it is full.
The vase has a base measuring 10 cm by 8 cm.

Calculate the height of this vase.

[2]

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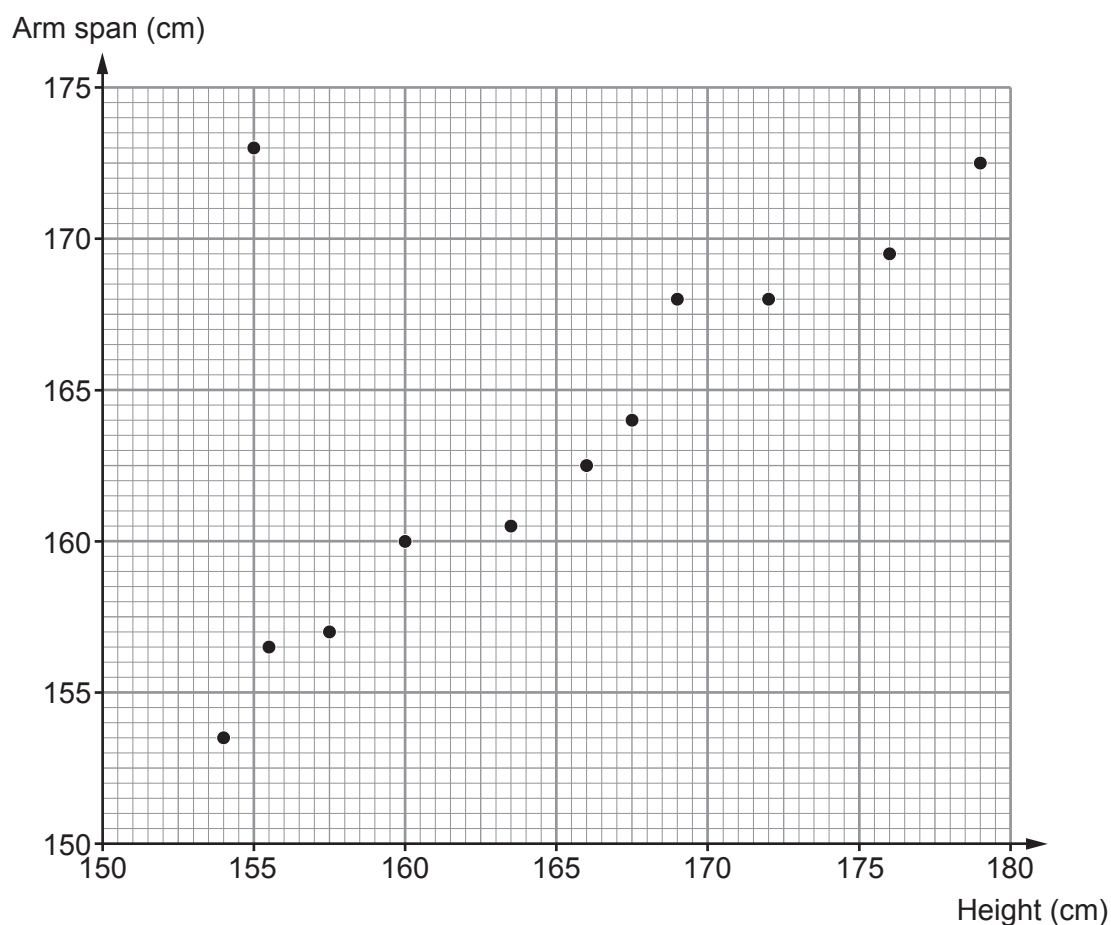
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11. In a PE lesson, 12 students each measured their height and arm span. The results are shown on the scatter diagram below.



- (a) Anwen is the only student who made an error in her measurements. She is one of the shortest students.

What did Anwen record as the measurement for her arm span?
Circle your answer.

[1]

155 cm 168 cm 173 cm 172.5 cm 178 cm



- (b) If you ignore Anwen's height, what is the median height of the other 11 students? [1]

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Median height is cm

- (c) What term best describes the correlation between a student's height and their arm span? [1]

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- (d) Megan has the same arm span as Elwyn.
Elwyn is taller than Megan.
How tall is Megan? [2]

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Megan is cm tall

- (e) Roland is 160 cm tall.
Elsa is 10% taller than Roland.
Find Elsa's height and arm span. [3]

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Elsa's height is cm

Elsa's arm span is cm

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