

Surname	Centre Number	Candidate Number
Other Names		0



GCSE

185/08

**MATHEMATICS
FOUNDATION TIER
PAPER 2**

A.M. FRIDAY, 10 June 2011

2 hours

ADDITIONAL MATERIALS

A calculator will be required for this paper.

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen. Do not use gel pen.
Do not use correction fluid.

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.

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 especially when a calculator is used.

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.

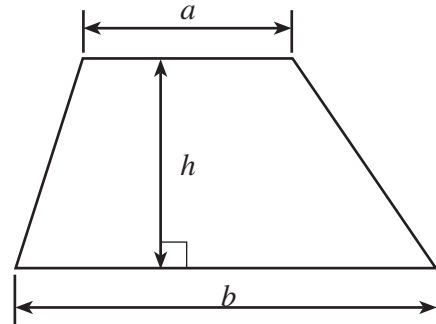
For Examiner's use only		
Question	Maximum Mark	Mark Awarded
1	5	
2	4	
3	4	
4	11	
5	4	
6	4	
7	4	
8	4	
9	6	
10	4	
11	4	
12	8	
13	5	
14	7	
15	5	
16	4	
17	4	
18	6	
19	4	
20	3	
TOTAL MARK		



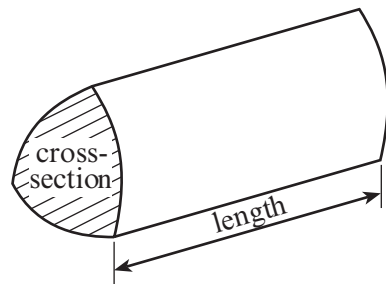
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Formula List

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



Volume of prism = area of cross-section \times length



1. (a) Brian orders some computer equipment and materials from an internet store. He buys a printer, 5 packets of paper, 12 ink cartridges and 6 discs. Complete the following table to show his bill for these items.

Item	Cost
1 printer	£87.34
5 packets of paper @ £5.36 per packet	
12 ink cartridges @ £2.76 each	
6 discs @ 74p each	
Total	

[4]

- (b) The store gives a discount of 10%. How much discount does Brian get?

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[1]

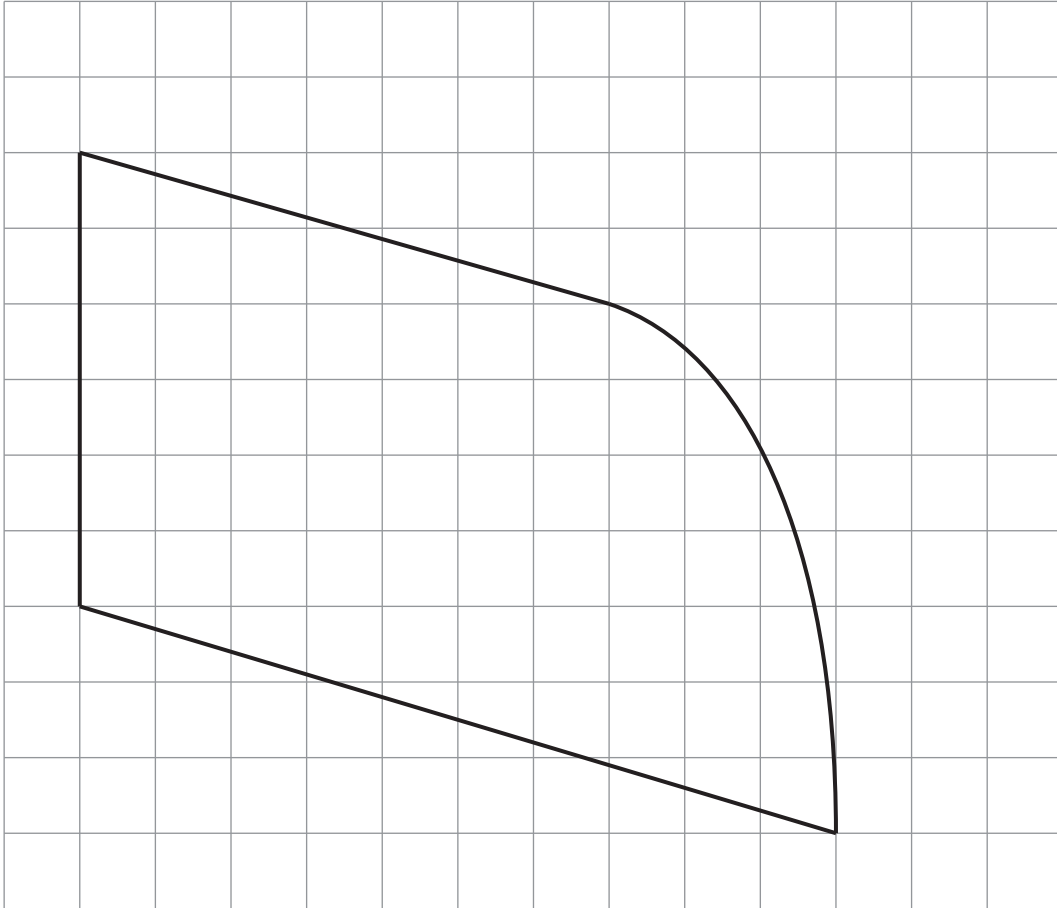
2. Which metric unit is **best** used to measure

- the height of a building,
- the capacity of a bucket,
- the distance from Dover to Calais,
- the weight of a horse?

[4]



3. (a)



The above shape has been drawn on a centimetre square grid.
By counting squares, estimate the area of the above shape.

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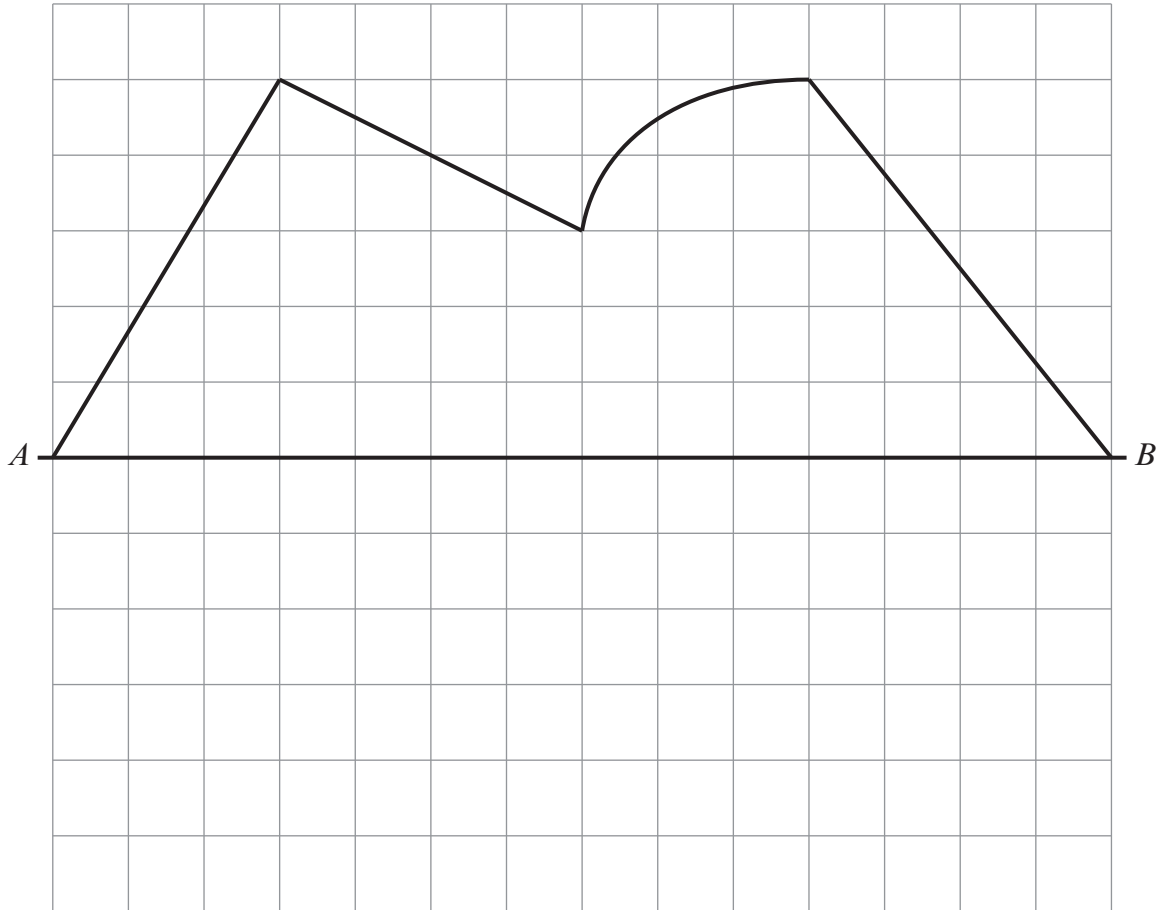
Area of the shape = cm^2

[2]




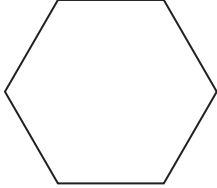
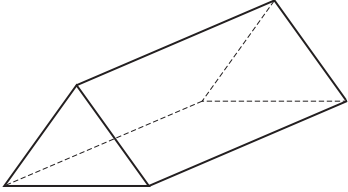
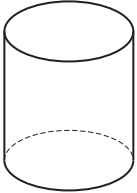
(b) Complete the following figure so that it is symmetrical about the line AB .

[2]



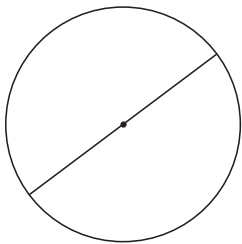
4. (a) Write down the names of **each** of the following figures.

[4]

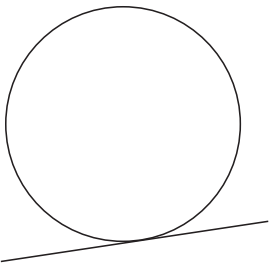
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(b) Write down the special name of the straight line shown in **each** of the following diagrams.

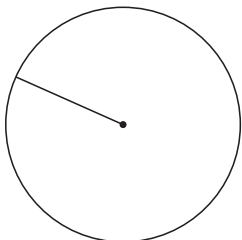
[3]



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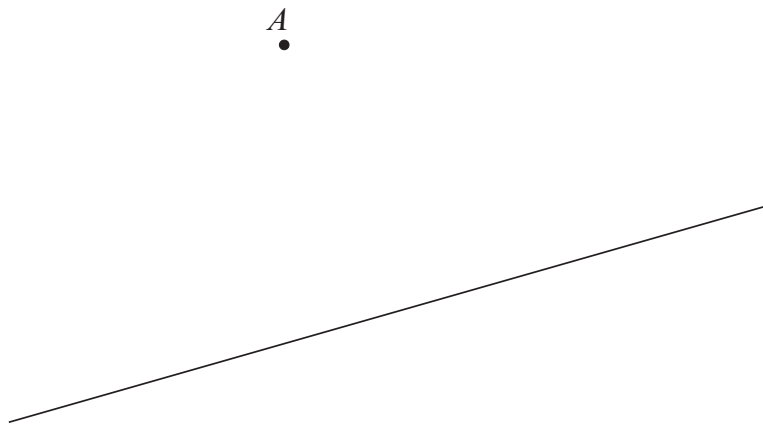


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- (c) In the diagram below, draw a line through the point A that is perpendicular to the given line.

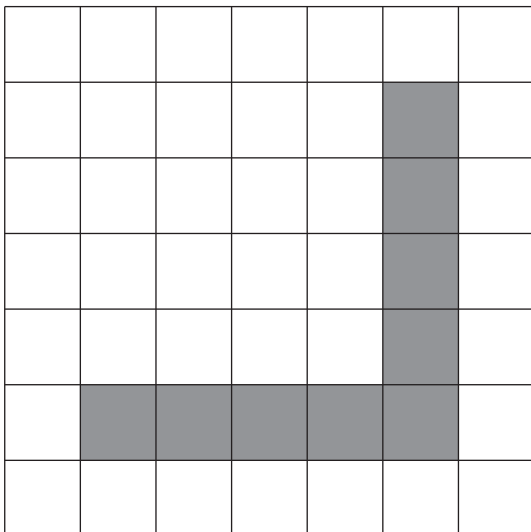
[1]



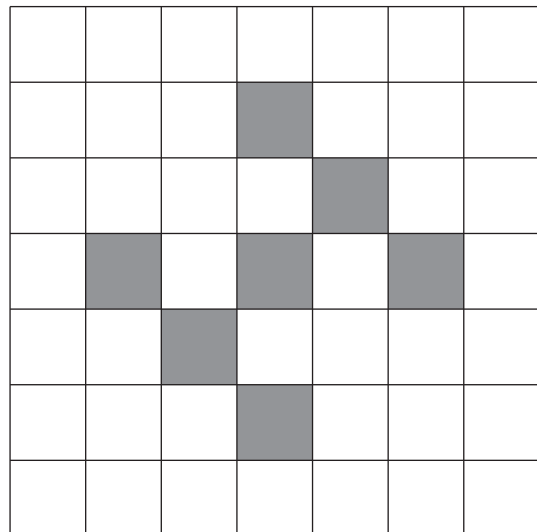
- (d) Draw **all** the lines of symmetry on the following figures.

[3]

(i)



(ii)

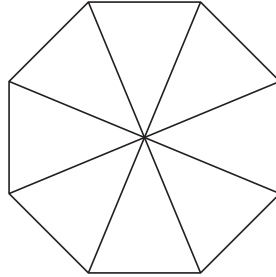


5. (a) Draw a circle around each of the following fractions that are equal to $\frac{1}{5}$.

$$\frac{5}{25} \quad \frac{3}{10} \quad \frac{4}{15} \quad \frac{2}{10} \quad \frac{5}{15}$$

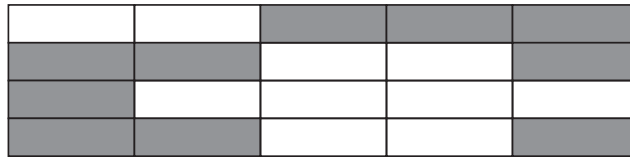
[2]

- (b) Shade 75% of the following figure.



[1]

- (c) What percentage of the following shape is shaded?



[1]



6. (a) Describe, **in words**, the rule for continuing **each** of the following sequences.

(i) 6, 15, 24, 33,

Rule:

.....

(ii) 243, 81, 27, 9,

Rule:

.....

[2]

(b) A rule connecting V and T is $V = 90 - 10T$.
Find the value of V when $T = 5$.

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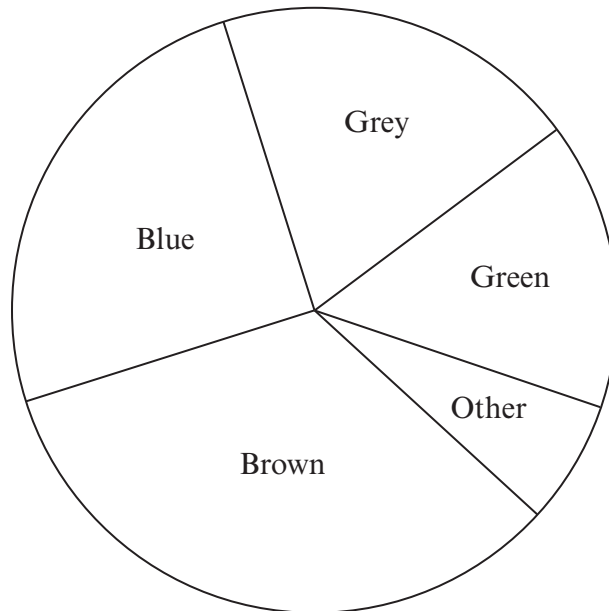
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[2]

0118
08/009



7. The eye colour of each of 96 pupils was recorded.
The data obtained was used to draw the following pie chart.



- (a) What **fraction** of the pupils have blue eyes?

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[2]

- (b) **How many** pupils have brown eyes?

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[2]



8. In a quiz, each contestant is asked 4 questions. Contestants score 3 points for each correct answer, -2 points for each incorrect answer and 0 if they pass (do not offer an answer).

(a) What is the score of a contestant who answers the first 3 questions correctly and answers the fourth incorrectly?

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..... [1]

(b) What is the score of a contestant who answers the first question correctly, passes on the second question and answers the last two incorrectly?

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..... [1]

(c) Lesley did the quiz and answered the first question correctly. Her final score was -3 . Explain fully how this happened.

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..... [2]

0185
0880011



9. In a large school, the number of absences in each of eight weeks was as follows:

87 65 83 49 78 69 55 58

(a) Find the mean number of absences per week.

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[3]

(b) Find the median number of absences per week.

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[2]

(c) Find the range of the number of absences per week.

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[1]

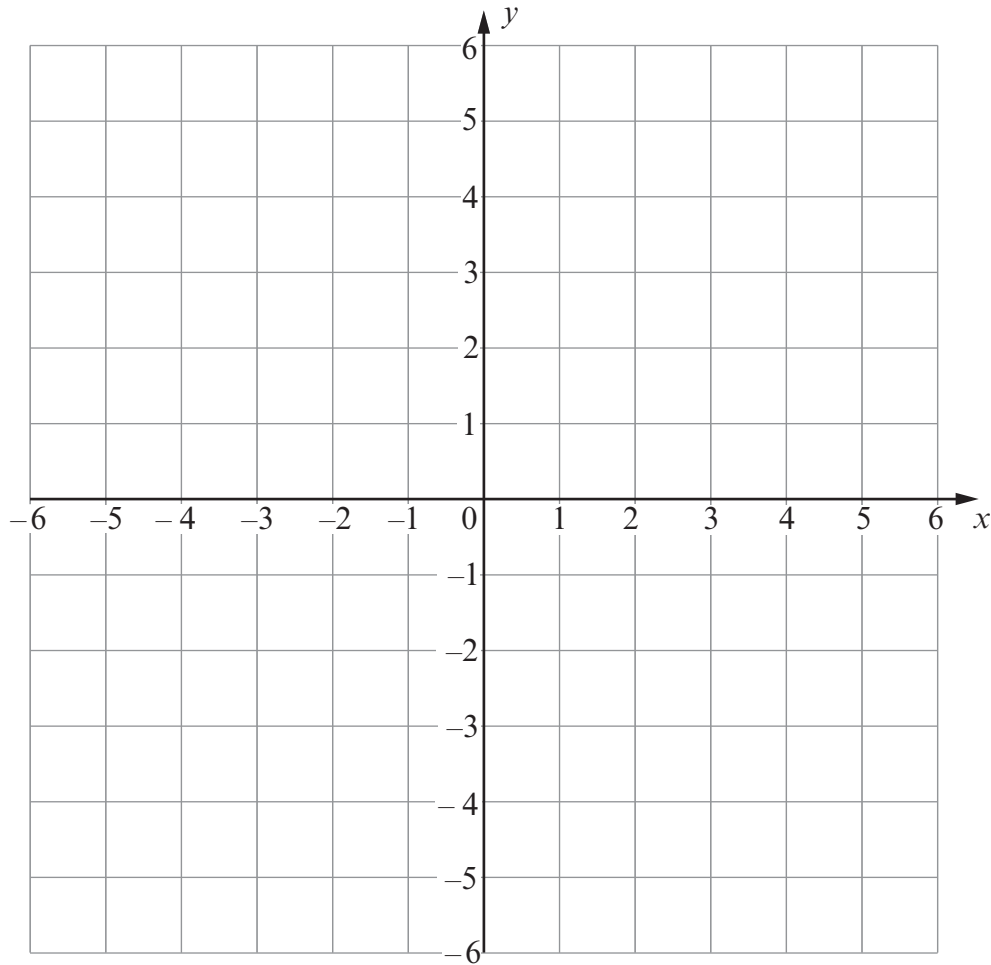


10. (a) On the squared paper below, plot the points $A(5, -3)$ and $B(-1, -5)$.

[2]

(b) Write down the coordinates of the mid-point of AB .

[2]



11. Arthur and Beryl went on holiday to Ghana.
The currency in Ghana is the cedi.

- (a) They changed £1400 into cedis when the exchange rate was £1 = 2.31 cedis.
How many cedis did they receive?

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[2]

- (b) Whilst in Ghana they bought a gift for 157.08 cedis.
How much is the gift in pounds?

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[2]



12. (a) In an examination with a total mark of 140, Alice scored 119.
What percentage is this?

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[2]

- (b) Osian's wage is £850 each month.
This is increased by 4%.
Calculate his new monthly wage.

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[2]

- (c) The total cost of 4 bags of chips and 5 fish is £16.35.
The chips are £1.15 a bag.
Find the cost of one fish.

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[4]



13. (a) Calculate the size of the angle marked x .

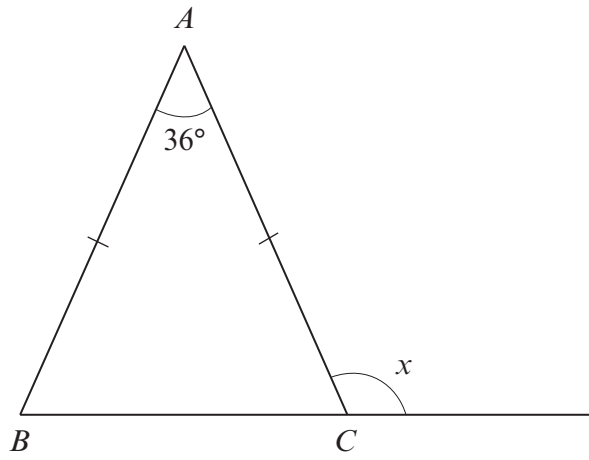


Diagram not drawn to scale

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$x = \dots\dots\dots^\circ$

[3]



- (b) Given that $ABCD$ is a rhombus, find the value of the angle marked y .

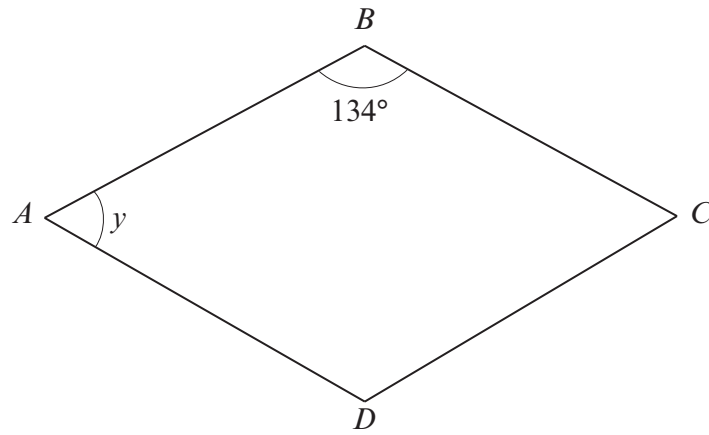


Diagram not drawn to scale

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$$y = \dots\dots\dots^\circ$$

[2]



14. (a) Write down the next two terms of the following sequence.

20, 17, 13, 8,,

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[2]

(b) Solve

(i) $\frac{x}{4} = 8$,

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(ii) $6x - 9 = 18$.

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[3]

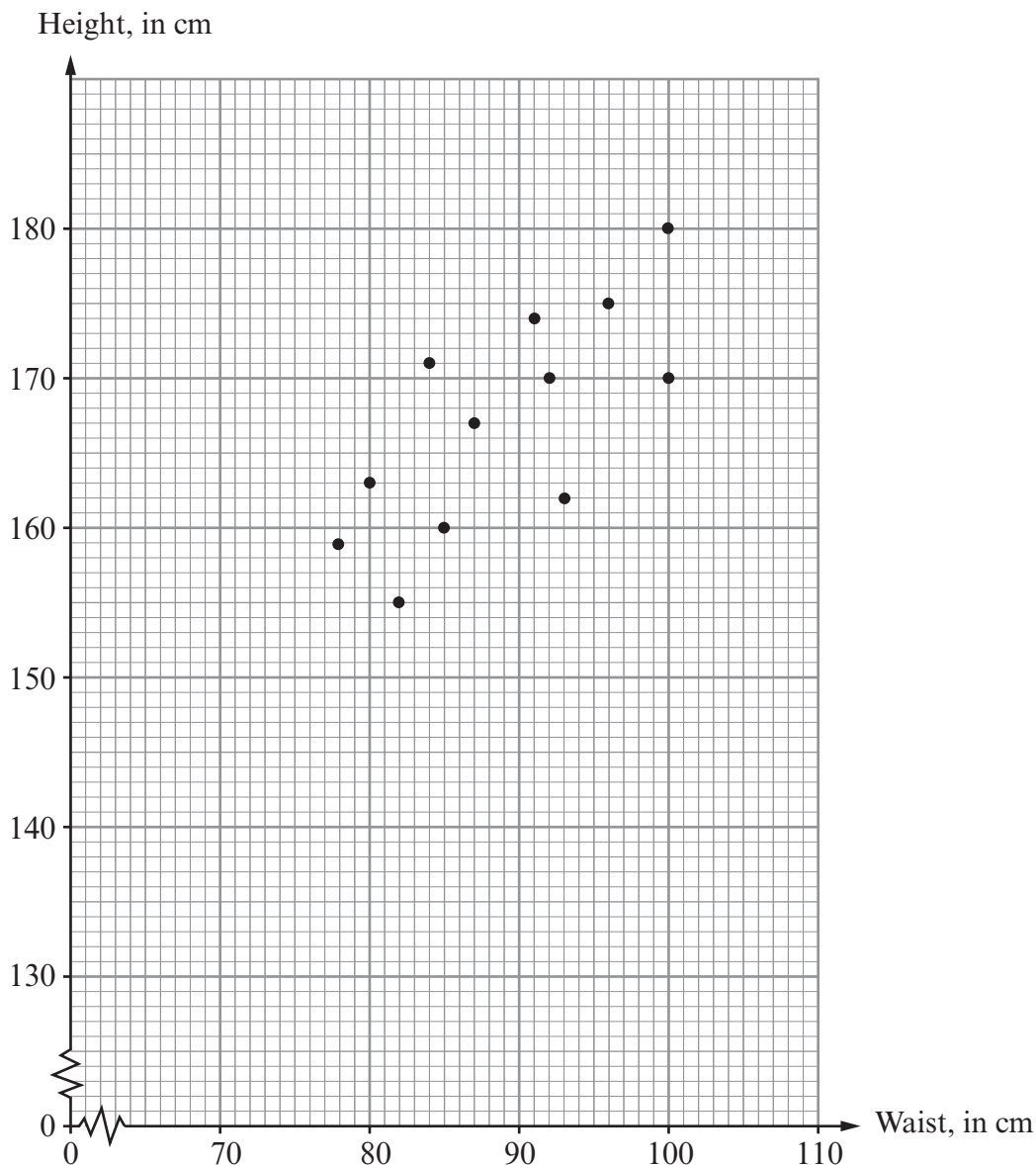
(c) Simplify $5a + 6b + 2a - 4b$.

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[2]



15. The scatter diagram shows the heights and waist measurements, in cm, of 12 people in a darts club.



- (a) Write down the height and waist measurement of the **tallest** of the 12 people.

Height cm

Waist cm
[2]

- (b) Write down the type of correlation shown by the scatter diagram.

..... [1]

- (c) Draw, by eye, a line of best fit on the scatter diagram.

[1]

- (d) Estimate the height of another member of the darts club with a waist measurement of 90 cm.

..... [1]



16.

20

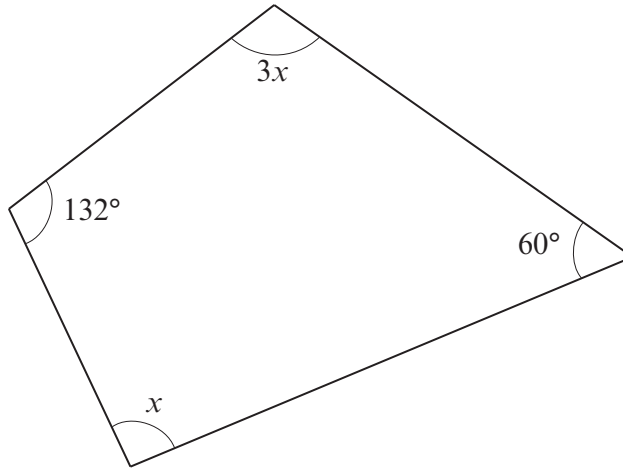


Diagram not drawn to scale

Calculate the value of x .

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$x =$

[4]

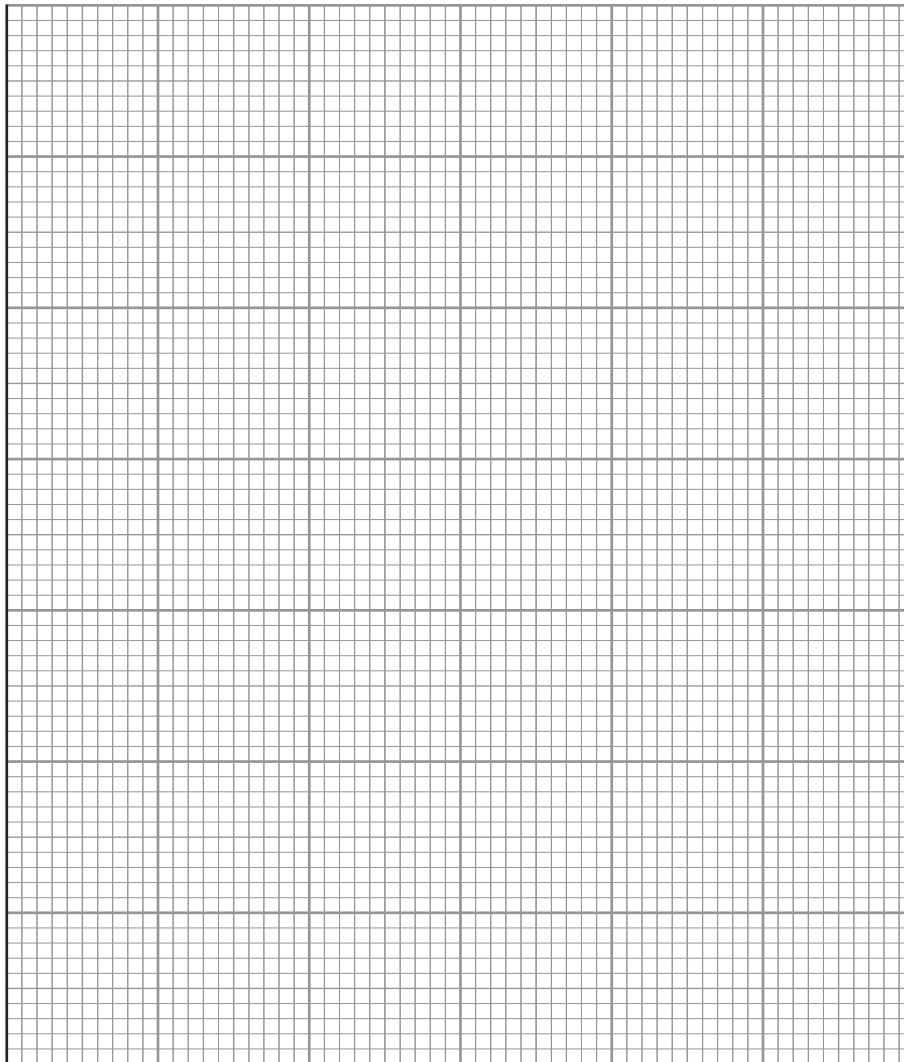


17. The chest measurements of 20 boys in a class were recorded.
The table below shows a summary of the results.

Chest measurement (x cm)	Number of boys
$90 \leq x < 95$	4
$95 \leq x < 100$	12
$100 \leq x < 105$	3
$105 \leq x < 110$	1

On the graph paper below, draw a grouped frequency diagram to show the distribution of the chest measurements.

[4]



18. (a) Ruth and Tony share £1491 in the ratio 2 : 5.
Calculate how much they each receive.

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Ruth £

Tony £

[2]

- (b) Find the compound interest, to the nearest penny, when £6000 is invested for 3 years at 4% per annum.

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[4]



19. Two friends, Kim and Terry, are planning a camping holiday.

The floor of their tent can be thought of as a rectangle.
The tent has a ground area of 5.12m^2 .

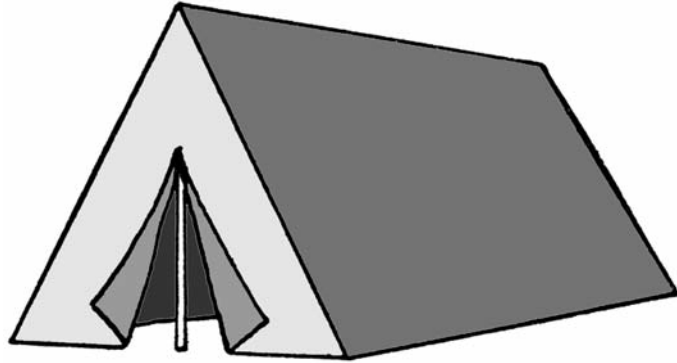


Diagram not drawn to scale.

The length of the tent is twice as long as the width.
Calculate the length and width of the floor of the tent.

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Length metres

Width metres

[4]



20.

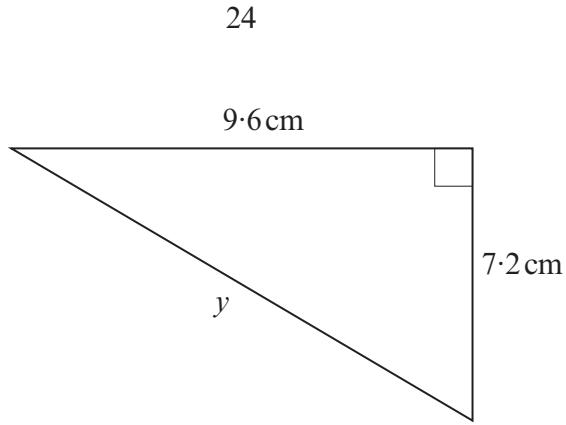


Diagram not drawn to scale

Calculate the length of the side marked y .

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[3]

