

- 11 The table shows information about the amount of money spent on holiday by each of 120 families.

Money spent (£ m)	Frequency
$0 < m \leq 100$	10
$100 < m \leq 200$	36
$200 < m \leq 300$	34
$300 < m \leq 400$	20
$400 < m \leq 500$	15
$500 < m \leq 600$	5

- (a) Write down the modal class.

.....
(1)

- (b) Complete the cumulative frequency table for the information in the table.

Money spent (£ m)	Cumulative frequency
$0 < m \leq 100$	
$0 < m \leq 200$	
$0 < m \leq 300$	
$0 < m \leq 400$	
$0 < m \leq 500$	
$0 < m \leq 600$	

(1)

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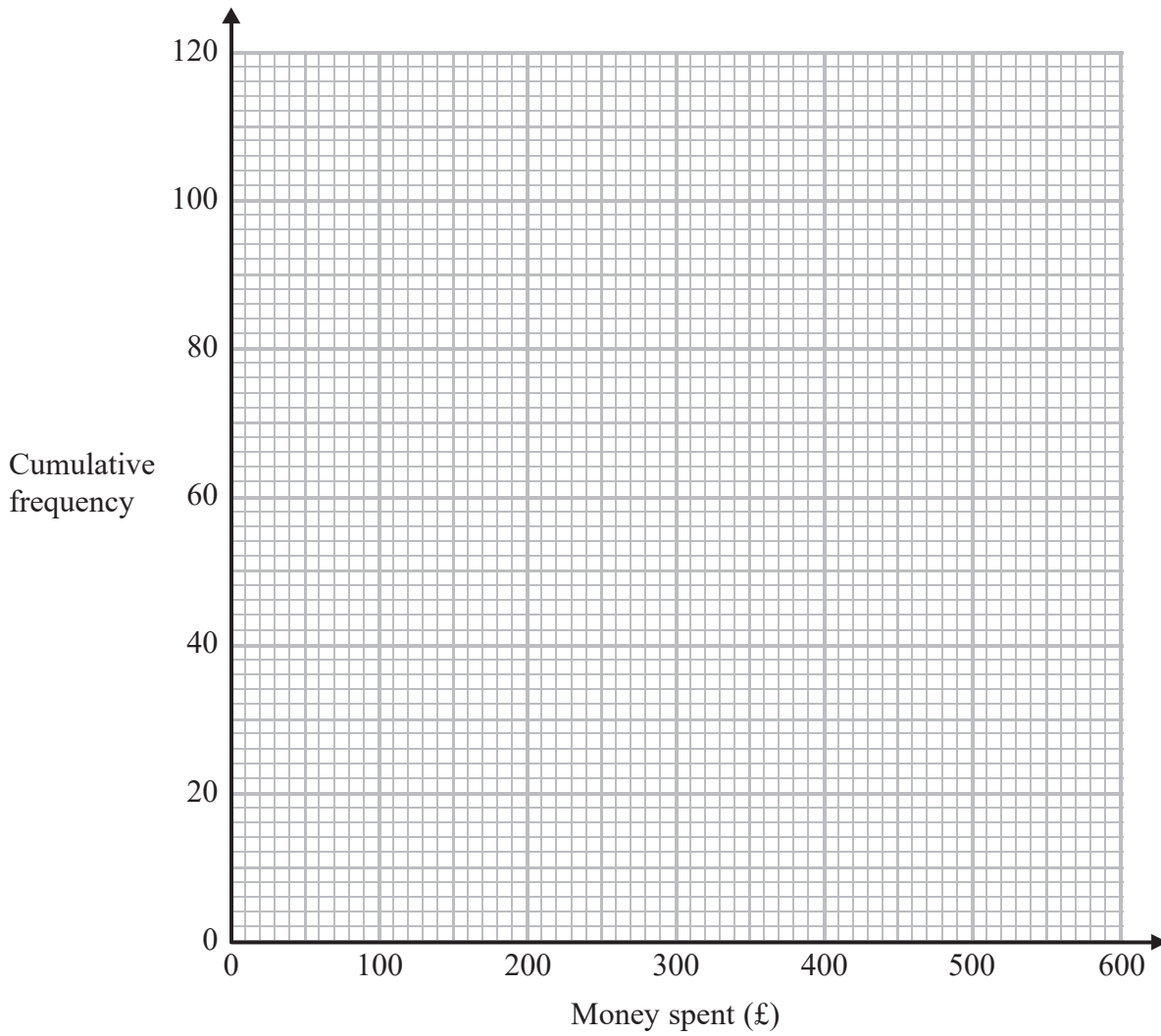
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(c) On the grid, draw a cumulative frequency graph for your table.

(2)



(d) Use your graph to find an estimate for the interquartile range.

£.....

(2)

(e) Use your graph to find an estimate for the number of families that spent more than £450 on holiday.

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(2)

(Total for Question 11 is 8 marks)

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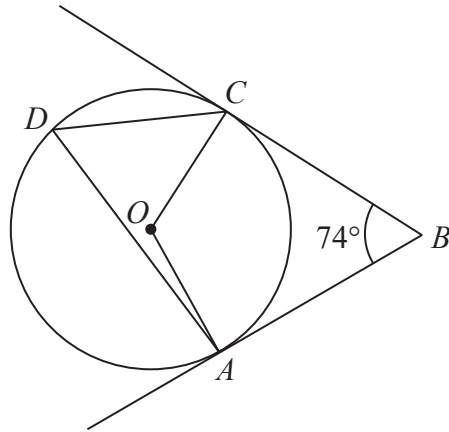


Diagram **NOT**
accurately drawn

A , C and D are points on a circle, centre O .
 AB and CB are tangents to the circle.

Angle $ABC = 74^\circ$

Work out the size of angle ADC .
Show your working clearly.

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(Total for Question 12 is 3 marks)

12



P 5 9 0 1 4 A 0 1 2 2 4

- 13 The straight line L_1 has equation $y = 6 - 2x$
 The straight line L_2 is perpendicular to L_1 and passes through the point $(4, 7)$
 Find the coordinates of the point where the line L_2 crosses the x -axis.

(.....,))

(Total for Question 13 is 4 marks)

14 $128 = 4^{2x} \times 2^x$

Work out the value of x .

$x =$

(Total for Question 14 is 3 marks)

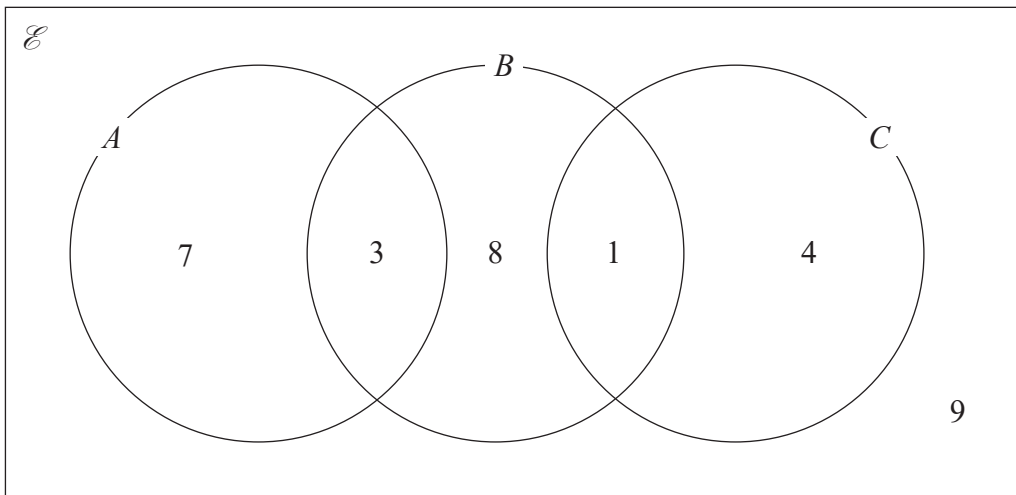
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15 The Venn diagram shows a universal set, \mathcal{E} , and sets A , B and C .



7, 3, 8, 1, 4 and 9 represent the **numbers** of elements.

Find

(i) $n(A \cup B)$

.....

(ii) $n(A' \cap C)$

.....

(iii) $n(A' \cup B')$

.....

(Total for Question 15 is 3 marks)

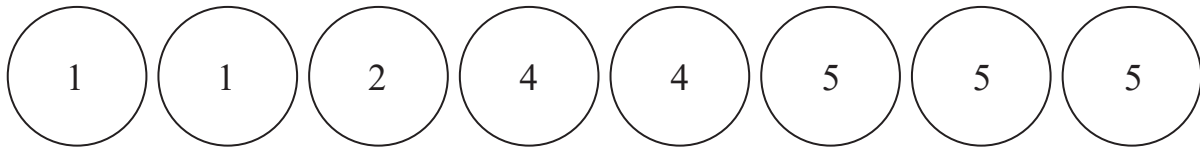
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- 16 There are 8 counters in a bag.
There is a number on each counter.



Fiona takes at random **three** of the counters.
She adds the numbers on the **three** counters to get her total.

Work out the probability that her total is an odd number.

.....
(Total for Question 16 is 4 marks)



17 (a) Use algebra to show that $0.4\dot{3}\dot{6} = \frac{24}{55}$

(2)

(b) Show that $\frac{\sqrt{20} + \sqrt{80}}{\sqrt{3}}$ can be expressed in the form \sqrt{a} where a is an integer.

Show your working clearly.

(3)

(Total for Question 17 is 5 marks)

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18 Solve the simultaneous equations

$$2x^2 + 3y^2 = 14$$

$$x = 2y - 3$$

Show clear algebraic working.

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(Total for Question 18 is 5 marks)

