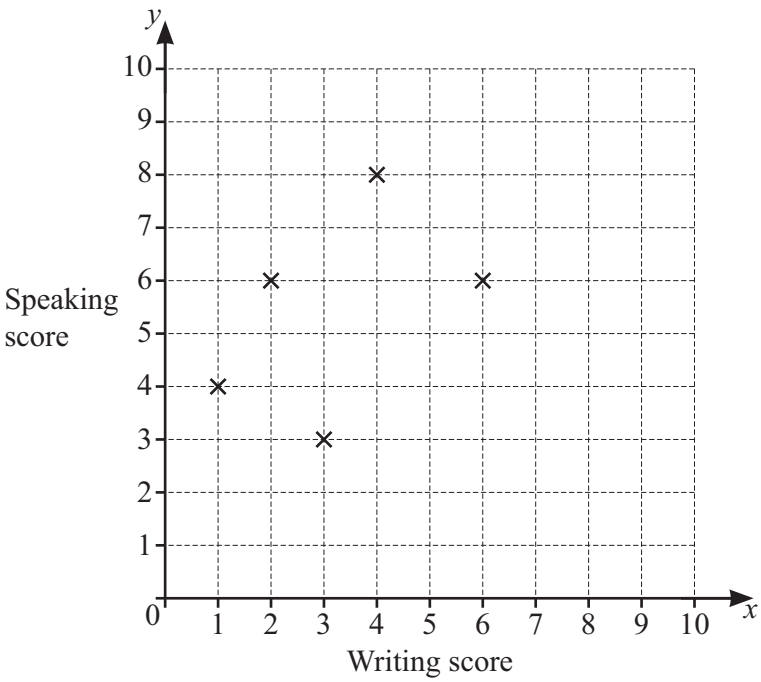
1. Question | 0607 Feb-March 2025 P4 V2 Q9

9 A class of students take a writing test and a speaking test.
The scores are shown in the table.

Writing score (x)	1	2	3	4	6	7	8	9	10
Speaking score (y)	4	6	3	8	6	7	7	8	9

(a) Complete the scatter diagram.
The first 5 points have been plotted for you.



[2]

(b) Find the equation of the line of regression for y in terms of x.

$y =$ ..... [2]

2. Question | 0607 Feb-March 2025 P4 V2 Q10

10 The table shows the number of pens in each room in a school.

Number of pens	1	2	3	4	5	6
Frequency	14	5	3	x	2	1

The mean number of pens is 2.3 .

Find the value of x.

$x =$ ..... [3]

3. Question | 0607 May-June 2025 P4 V1 Q1

1 150 students are each asked how many texts they sent the previous day.
The results are shown in the table.

Number of texts	0	1	2	3	4	5	6
Frequency	18	45	37	24	15	8	3

(a) Find

(i) the mode

..... [1]

(ii) the median

..... [1]

(iii) the range

..... [1]

(iv) the upper quartile.

..... [1]

(b) One of the 150 students is selected at random.

Find the probability that this student sent fewer than 3 texts.

..... [1]

4. Question | 0607 May-June 2025 P4 V2 Q10

10 The table shows the marks of each of 10 students in a physics exam and in a chemistry exam.

Physics mark (x)	9	21	33	41	55	68	75	83	89	96
Chemistry mark (y)	31	46	42	50	50	61	69	68	72	90

(a) Find the mean physics mark.

..... [1]

(b) **(i)** Find the equation of the regression line for y in terms of x.

$y =$ ..... [2]

(ii) Use your answer to **part (b)(i)** to estimate the chemistry mark when the physics mark is 46.

..... [1]

(c) Two of the students who scored more than 35 in the physics exam are chosen at random.

Find the probability that they both scored more than 65 in the chemistry exam.

..... [3]

5. Question | 0607 May-June 2025 P4 V3 Q7

7 Omar records the time he spends revising and his test score for each of 8 tests.
The maximum score on each test is 20.
The table shows the results.

Time revising (x minutes)	15	15	18	25	30	35	35	40
Test score (y)	11	10	12	13	15	16	18	18

(a) Write down the type of correlation between the time Omar spent revising and his test score.

..... [1]

(b) (i) Find the equation of the regression line for y in terms of x.

$y =$ ..... [2]

(ii) Use your answer to **part (b)(i)** to estimate Omar's test score when he spends 20 minutes revising.

..... [1]

6. Question | 0607 May-June 2025 P4 V3 Q10

10 The speed of each of 155 cars passing a school gate is recorded.
The results are shown in the table.

Speed (v km/h)	$10 < v \leqslant 20$	$20 < v \leqslant 30$	$30 < v \leqslant 35$	$35 < v \leqslant 40$	$40 < v \leqslant 60$
Frequency	7	23	36	49	40

Calculate an estimate of the mean speed.

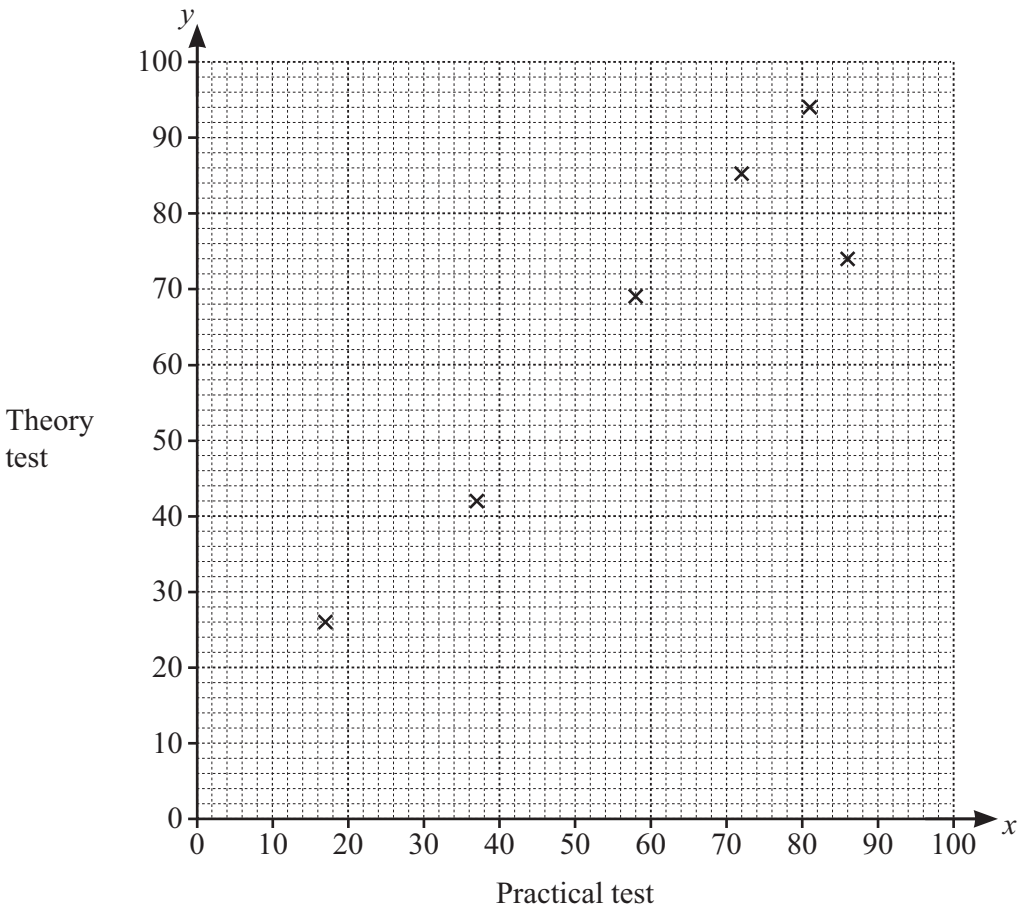
..... km/h [2]

7. Question | 0607 Oct-Nov 2025 P4 V1 Q1

1 An examination has two parts: a practical test and a theory test.
These are the results for ten people.

Practical test (x)	37	81	58	86	72	17	72	28	51	65
Theory test (y)	42	94	69	74	85	26	68	34	49	69

(a) Complete the scatter diagram.
The first 6 points have been plotted for you.



[2]

(b) What type of correlation is shown on the scatter diagram?

..... [1]

(c) Find the equation of the regression line.
Give your answer in the form $y = mx + c$.

$y =$ ..... [2]

(d) Bruno scored 57 in the practical test.

Use your answer to **part (c)** to estimate Bruno's score for the theory test.

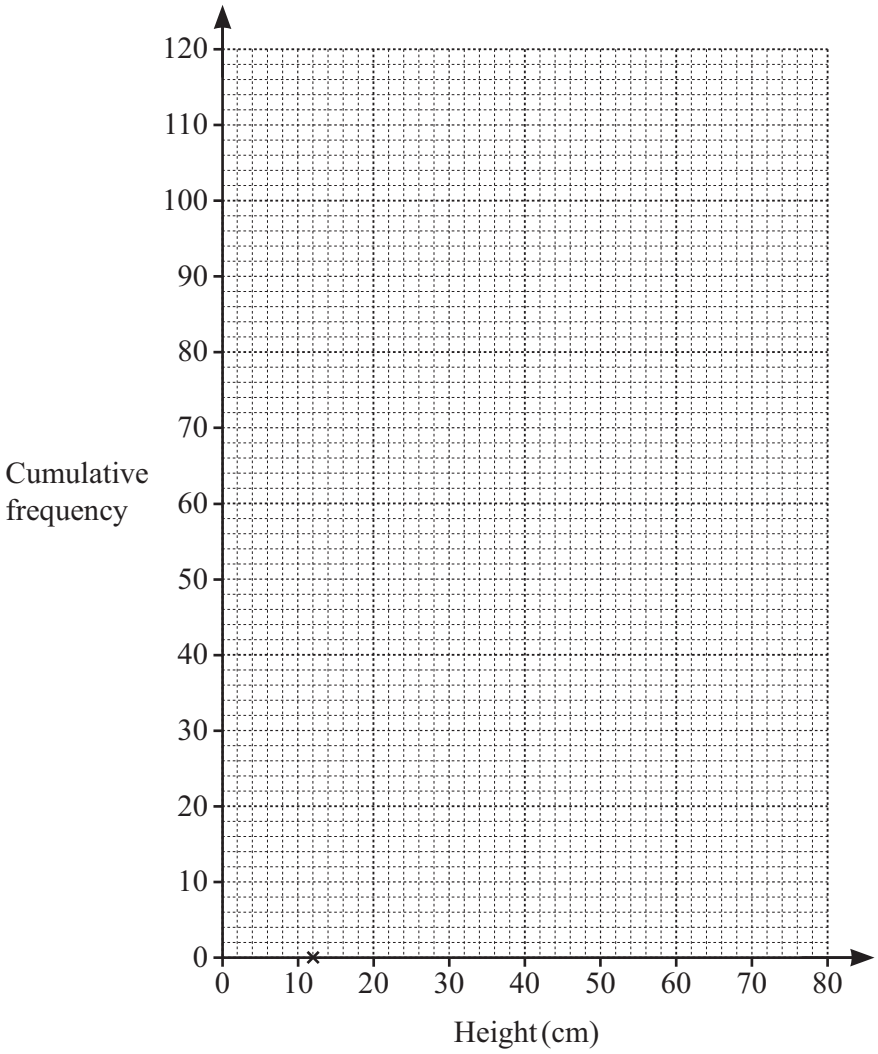
..... [1]

8. Question | 0607 Oct-Nov 2025 P4 V1 Q11

11 The table shows some information about the heights, in cm, of 120 plants.
All of these plants have a height greater than 12 cm.

Maximum	80
Median	48
Lower quartile	34
Interquartile range	26

Use this information to draw a cumulative frequency diagram.
The first point has been plotted for you.



[3]

9. Question | 0607 Oct-Nov 2025 P4 V2 Q2

2 The table shows the marks scored by 100 students in a test.

Mark	1–10	11–20	21–40	41–60	61–80	81–90	91–100
Number of students	2	8	17	21	14	25	13

(a) One of these students is chosen at random.

Find the probability that this student scored more than 90 marks.

..... [1]

(b) Write down the group that contains the median.

..... [1]

(c) Calculate an estimate for the mean.

..... [2]

10. Question | 0607 Oct-Nov 2025 P4 V2 Q10

10 The table shows the marks of 10 students in a French test and in a Spanish test.

French mark (x)	27	32	36	44	57	65	78	86	89	93
Spanish mark (y)	28	12	40	47	59	68	75	82	83	89

(a) Find the equation of the regression line for y in terms of x.

$y =$ ..... [2]

(b) Use your equation to estimate the Spanish mark when the French mark is 5.

..... [1]

(c) Is your answer to **part (b)** likely to be a reliable estimate of the Spanish mark?
Give a reason for your answer.

.....

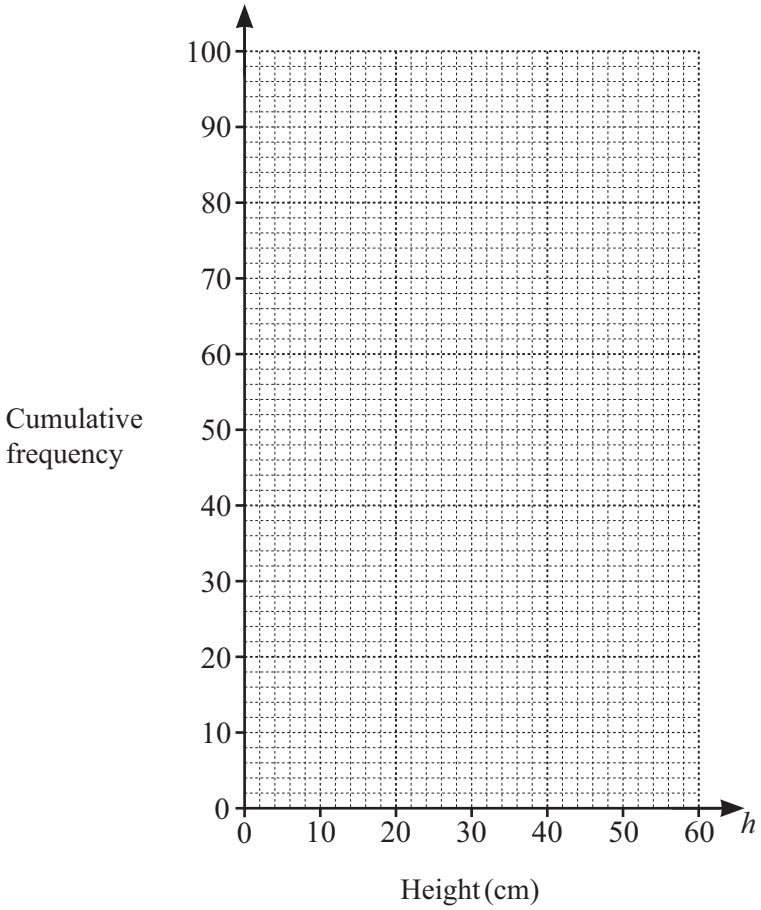
..... [1]

11. Question part 1/2 | 0607 Oct-Nov 2025 P4 V3 Q7

7 The heights of 100 plants are measured.
The results are shown in the cumulative frequency table.

Height (h cm)	$h \leqslant 5$	$h \leqslant 10$	$h \leqslant 20$	$h \leqslant 40$	$h \leqslant 60$
Cumulative frequency	7	32	63	85	100

(a) (i) On the grid, draw the cumulative frequency diagram.



[3]

(ii) Use your cumulative frequency diagram to find an estimate of

(a) the median

..... cm [1]

(b) the number of plants with a height greater than 30 cm.

..... [2]

11. Question part 2/2 | 0607 Oct-Nov 2025 P4 V3 Q7

(b) **(i)** Complete the frequency table for the 100 plants.

Height (h cm)	$0 < h \leqslant 5$	$5 < h \leqslant 10$	$10 < h \leqslant 20$	$20 < h \leqslant 40$	$40 < h \leqslant 60$
Frequency	7	25			15

[1]

(ii) Calculate an estimate of the mean.

..... cm [2]

12. Question | 0607 Specimen 2025 P4 Q4

4 The table shows the daily maximum temperature and the daily minimum temperature during a week in a town.

Maximum temperature (x °C)	28	25	26	26	30	31	27
Minimum temperature (y °C)	14	13	14	13	16	16	15

(a) Write down the type of correlation between the daily maximum temperature and the daily minimum temperature.

..... [1]

(b) Find the equation of the line of regression, giving y in terms of x.

$y =$ ..... [2]

13. Question | 0607 Specimen 2025 P4 Q6

6 100 students each cut a piece of string.
Each student then measures the length, x cm, of their piece of string.
The results are shown in the table.

Length (x cm)	$9 < x \leqslant 10$	$10 < x \leqslant 10.5$	$10.5 < x \leqslant 11$	$11 < x \leqslant 12.5$	$12.5 < x \leqslant 15$
Frequency	7	48	35	6	4

(a) Calculate an estimate of the mean.

..... cm [2]

(b) Joe picks one of the 100 pieces of string at random.

Write down the probability that this piece of string has a length greater than 15 cm.

..... [1]

(c) Kira picks two of the 100 pieces of string at random.

Calculate the probability that both of these pieces of string have a length greater than 11 cm.

..... [2]

(d) Lenny picks two of the pieces of string with a length greater than 11 cm at random.

Calculate the probability that both of these pieces of string have a length greater than 12.5 cm.

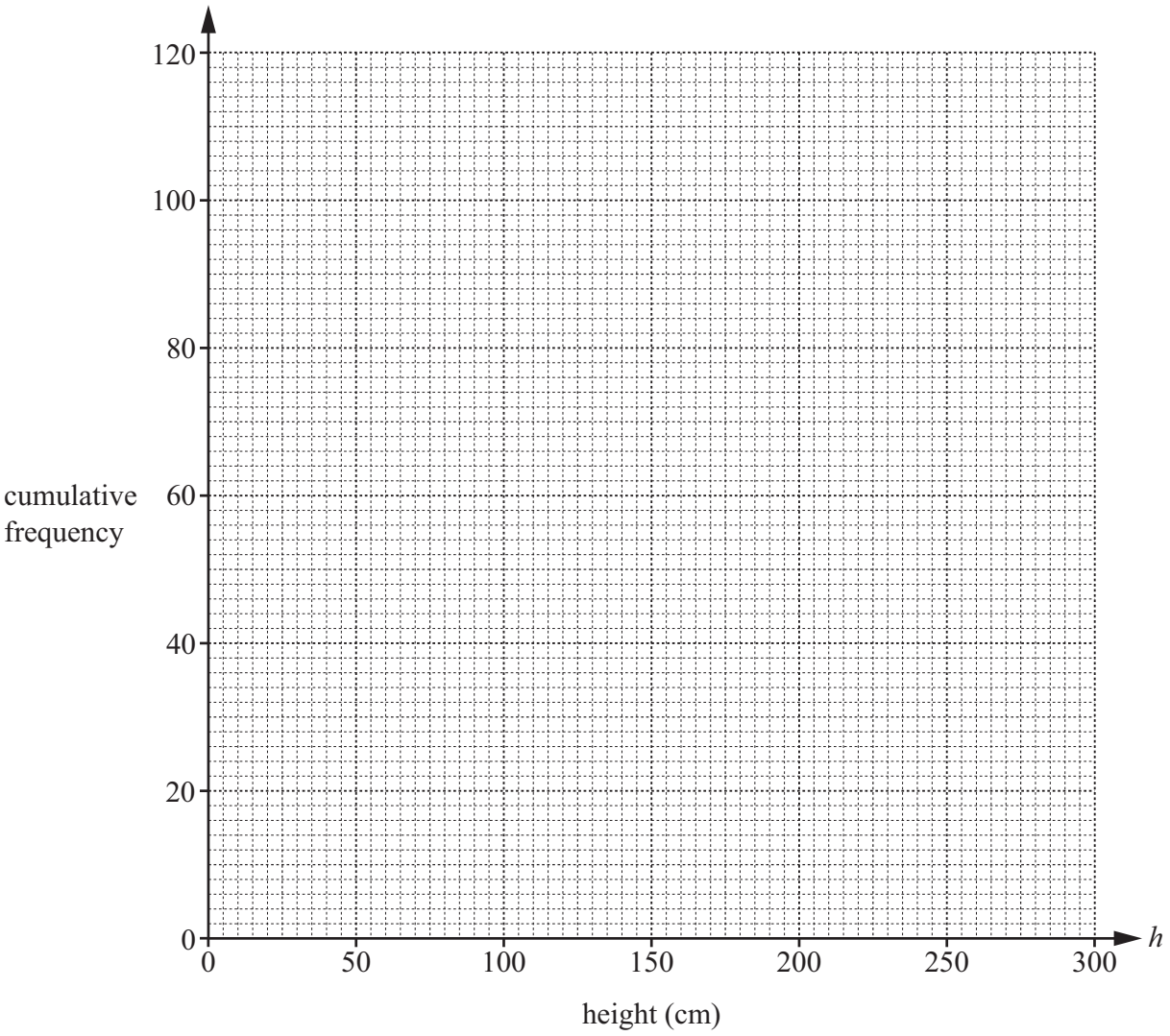
..... [2]

14. Question | 0607 Feb-March 2026 P4 V2 Q7

7 The table shows some information about the heights of 120 trees.

height, *h* cm	$h \leqslant 50$	$h \leqslant 100$	$h \leqslant 150$	$h \leqslant 200$	$h \leqslant 250$	$h \leqslant 300$
cumulative frequency	6	16	44	82	108	120

(a) Draw a cumulative frequency diagram to show this information.



[2]

(b) Use the diagram to estimate the number of trees with a height of over 230 cm.

..... [2]

15. Question | 0607 May-June 2026 P4 V1 Q4

4 The table shows the times taken by 800 people to complete a task.

time (t seconds)	$0 < t \leqslant 25$	$25 < t \leqslant 35$	$35 < t \leqslant 40$	$40 < t \leqslant 50$	$50 < t \leqslant 70$
frequency	15	90	280	275	140

(a) Write down the modal class.

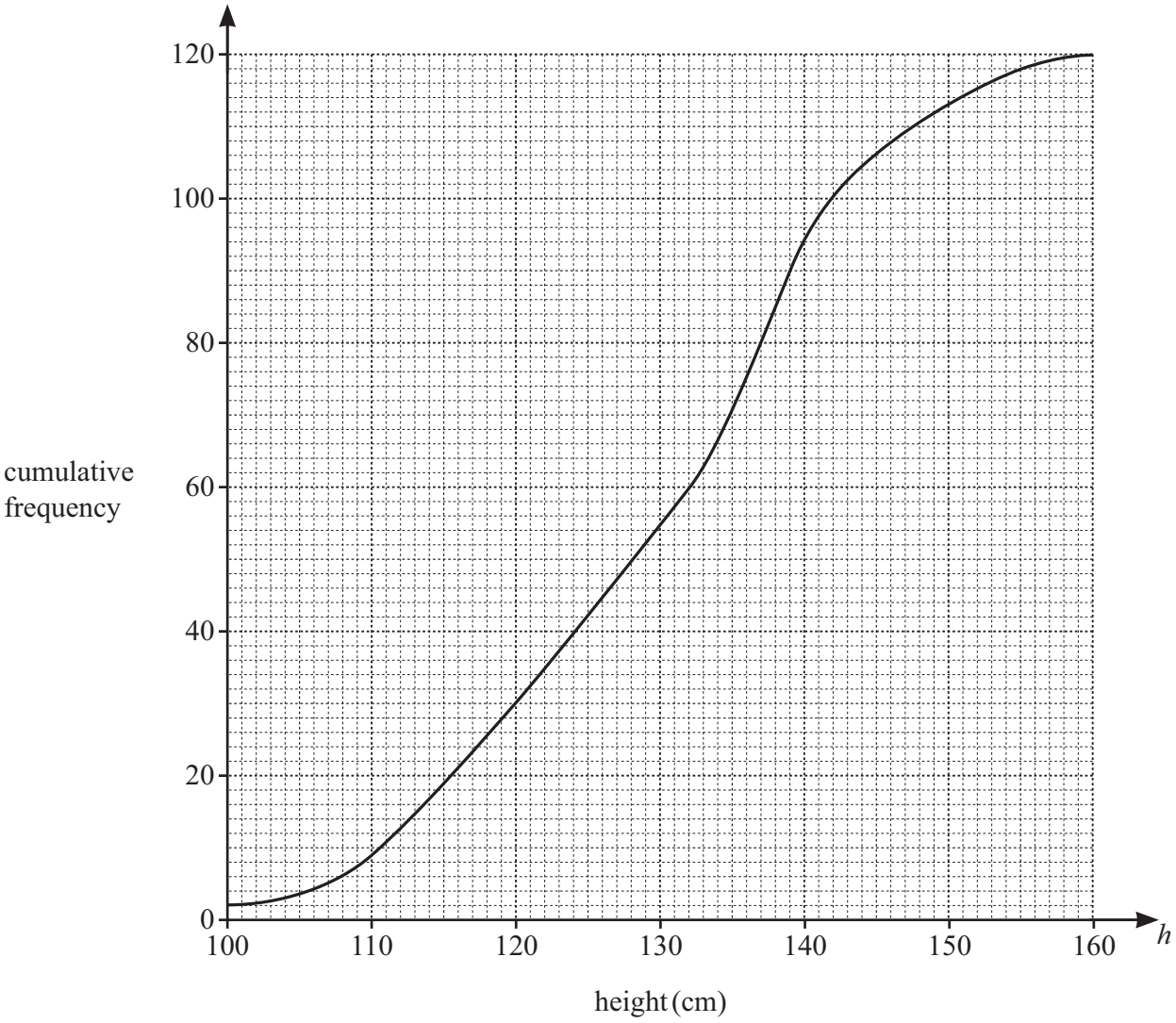
..... $< t \leqslant$ ..... [1]

(b) Calculate an estimate of the mean time.

.....s [2]

16. Question | 0607 May-June 2026 P4 V1 Q13

13 The cumulative frequency diagram shows the heights of 120 students.



Use the cumulative frequency diagram to find an estimate for

(a) the interquartile range

..... cm [2]

(b) the number of students that have a height of more than 145 cm.

..... [2]

17. Question part 1/2 | 0607 May-June 2026 P4 V2 Q17

17 Each of 100 students recorded the time spent doing homework one evening.
The results are shown in the table.

time (t minutes)	$0 < t \leqslant 60$	$60 < t \leqslant 90$	$90 < t \leqslant 120$	$120 < t \leqslant 180$
frequency	7	31	45	17

(a) Calculate an estimate of the mean.

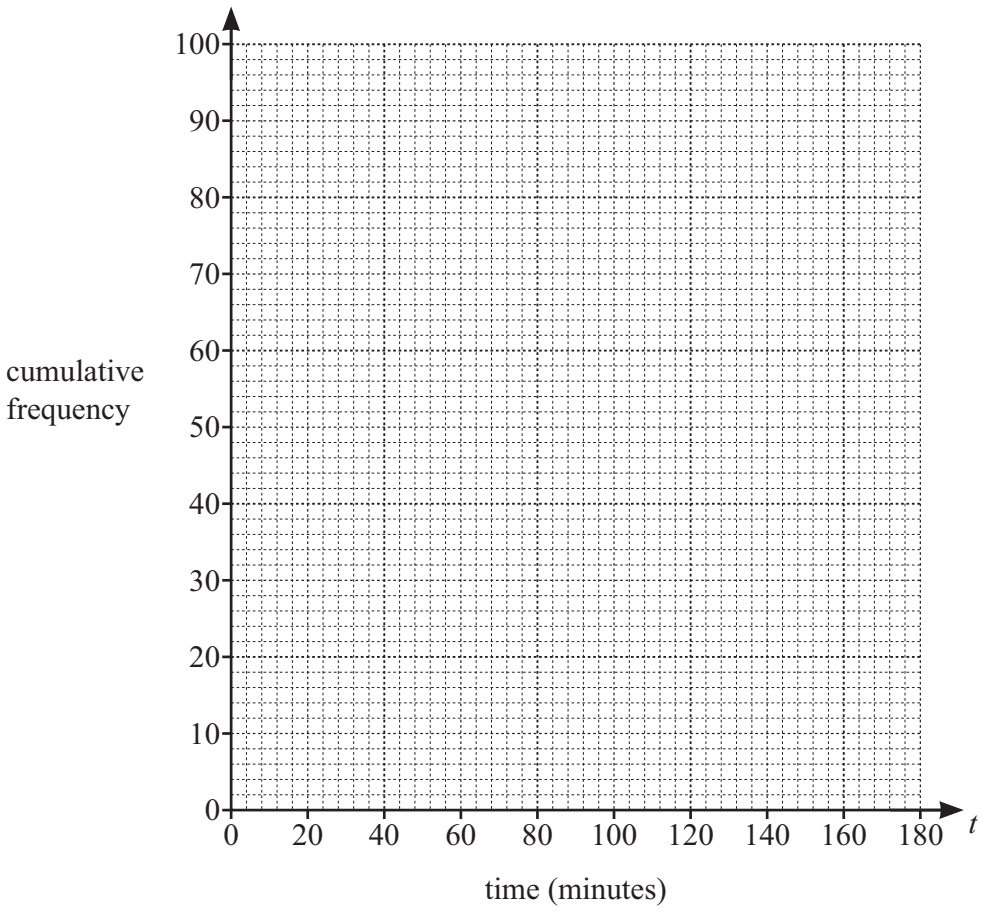
..... min [2]

(b) **(i)** Complete the cumulative frequency table.

time (t minutes)	$t \leqslant 60$	$t \leqslant 90$	$t \leqslant 120$	$t \leqslant 180$
cumulative frequency	7			100

[1]

(ii) On the grid, draw a cumulative frequency diagram.



[2]

(iii) Use your cumulative frequency diagram to estimate

(a) the median

..... [1]

(b) the lower quartile

..... [1]

(c) the number of students who spent 70 minutes or less on their homework.

..... [1]

(c) Two of the 100 students are chosen from the same time interval in the first table.

The probability of choosing both these students is $\frac{1}{5}$.

Complete the time interval they were chosen from.
Show how you decide.

..... $< t \leqslant$ ..... [2]

18. Question | 0607 May-June 2026 P4 V3 Q5

5 The table shows the marks scored by 50 students in a test.

mark	1 to 5	6 to 10	11 to 15	16 to 20	21 to 25	26 to 30	31 to 35
frequency	1	3	7	12	9	11	7

(a) One of these students is chosen at random.

Find the probability that this student scored more than 25 marks.

..... [1]

(b) Find

(i) the modal class

..... [1]

(ii) the group that contains the median.

..... [1]

19. Question | 0607 May-June 2026 P4 V3 Q10

10 The table shows the marks of 10 students in a French exam and a Spanish exam.

French mark (x)	18	22	31	36	42	48	55	63	69	76
Spanish mark (y)	34	42	43	55	48	58	59	68	72	79

(a) Find the mean French mark.

..... [1]

(b) (i) Find the equation of the regression line for y in terms of x.

$y =$ ..... [2]

(ii) Use your answer to **10(b)(i)** to estimate the Spanish mark when the French mark is 25.

..... [1]

(c) Two of the students who scored more than 40 in the French exam are chosen at random.

Find the probability that they both scored more than 50 in the Spanish exam.

..... [2]