Rosary School \ Marj Elhamam

Name : …… Date: / 9 / 2025

Subject: Charts **and diagrams (Past paper questions)**

Grade :8 ( )

Questions

Q1.

20 students are asked to record their gender **and** which foreign language they prefer.

The results are displayed in the table below, although some of the values are hidden.

	Male	Female	Total
Spanish			13
German	6		
Total	9		20

(a) The teacher picks one of the female students at random.

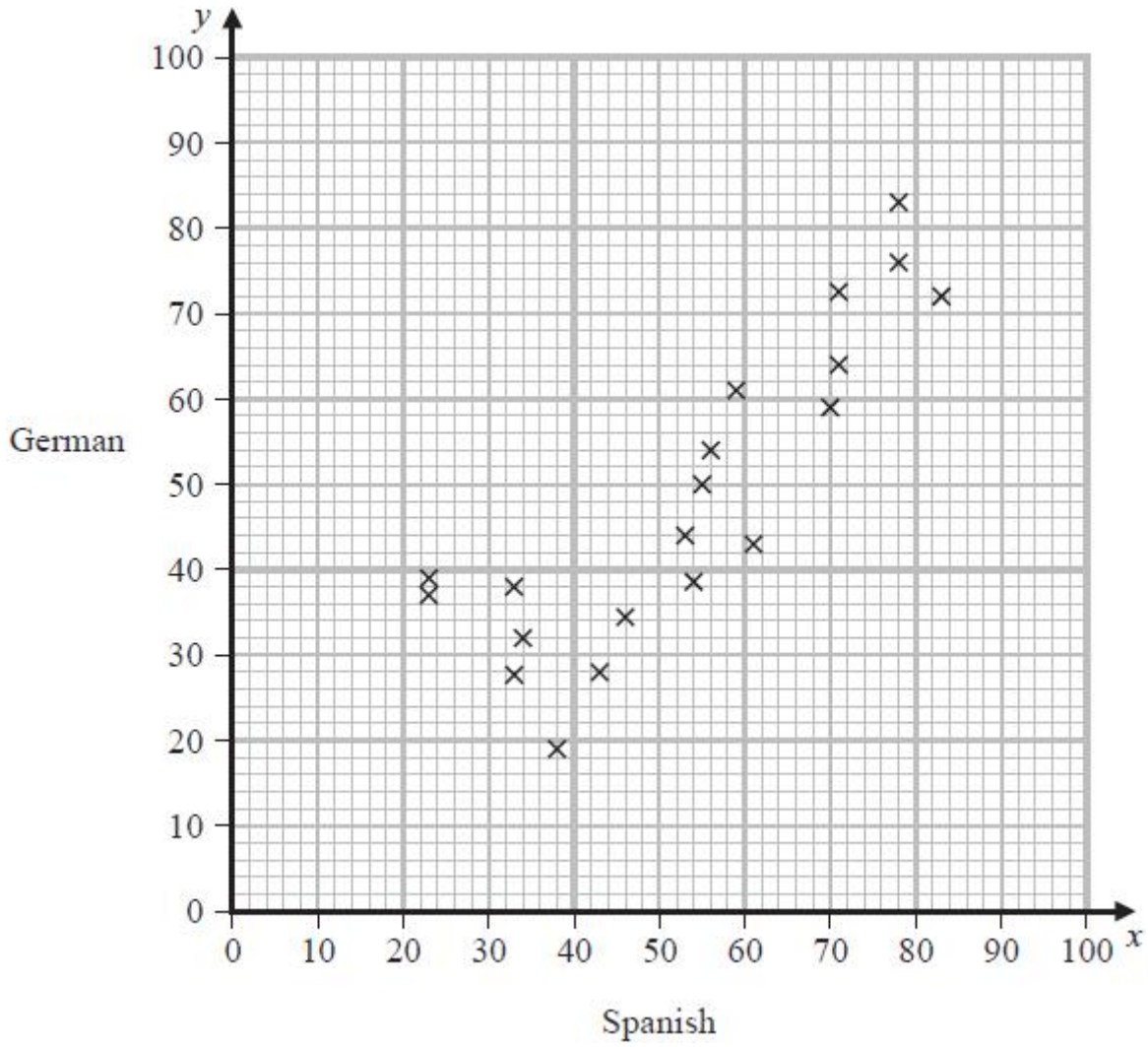
What is the probability that the female student chosen prefers Spanish?

.....

(2)

Each of the 20 students take a test in Spanish and a test in German.

The scatter graph shows their results.



(b) Draw a line of best fit on the scatter graph.

(1)

(c) Another student from the same class scores 65 on the Spanish test.

What would this student be expected to score on the German test?

.....

(1)

(Total for question = 4 marks)

(**QU18 LMA11/01, June 2021**)

Q2.

The table shows the number of goals scored by each of 24 football teams.

Goals	0	1	2	3
Frequency	2	7	10	5

Calculate the mean number of goals scored per team.

.....

(Total for question = 3 marks)

(**QU27 LMA11/01, Oct 2022**)

Q3.

(a) The number of visitors to an office each day is shown in the table below.

Visitors	0	1	2	3	4
Frequency	4	8	13	9	6

Calculate the mean number of visitors to the office per day.

.....

(3)

One of the staff in the office wants to know the best cinema in the area.

He stands outside one of the local cinemas and asks 8 people as they leave:

"What is your favourite cinema in this area?"

(b) Give two reasons why this is not a good way to collect data.

1 .....

.....

2 .....

.....

(2)

(Total for question = 5 marks)

(**QU29 LMA11/01, June 2022**)

Q4.

The distances that 7 pupils threw a shot-putt are recorded below, in metres.

9.44 10.44 7.22 10.91 8.69 17.78 10.91

(a) What is the mode of these distances?

..... m

(1)

(b) What is the mean of these distances?

..... m

(2)

(Total for question = 3 marks)

(**QU16 LMA11/01, Oct 2021**)

Q5.

Two sprinters run a series of five races.

Their times, in seconds, for each race are recorded in the table below.

Race	Sprinter A	Sprinter B
1	11.1	12.2
2	14	12.4
3	11.6	12.3
4	10.7	Did not run
5	13.5	12.2

One of the sprinters will be chosen to represent their school in a race.

Which sprinter should be chosen to represent their school?

Use averages and range to explain your answer.

(Total for question = 3 marks)

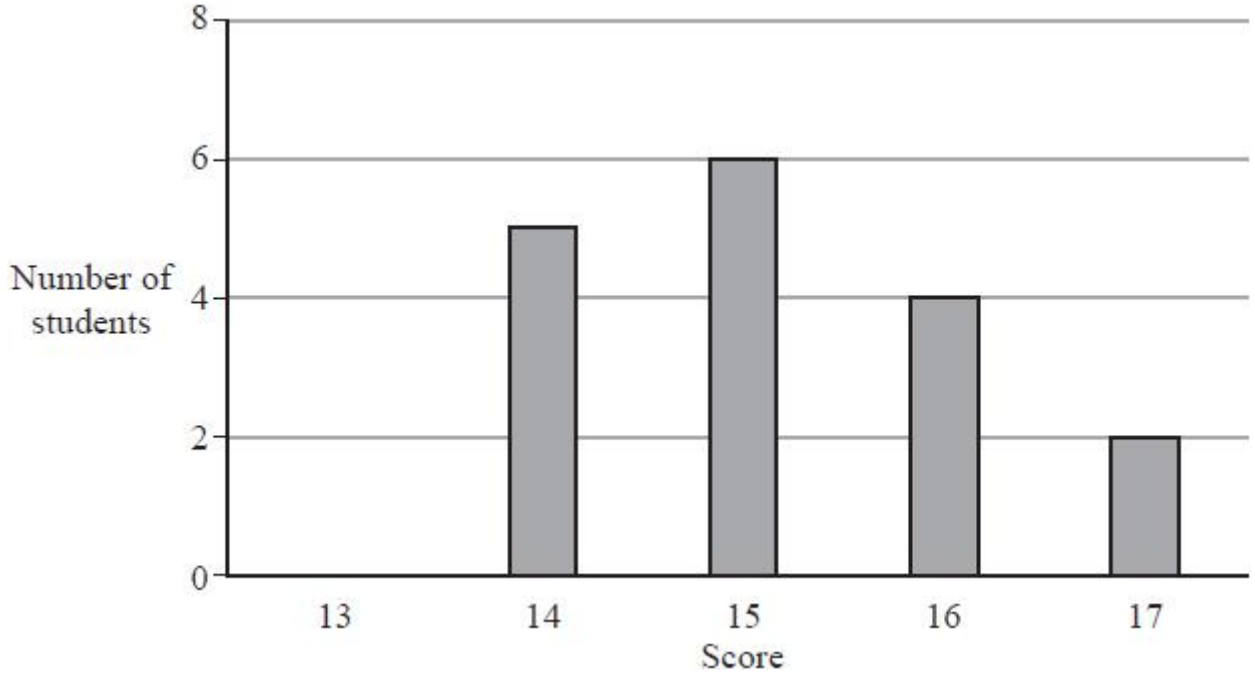
(**QU29 LMA11/01, Oct 2020**)

Q6.

The scores of 20 students in a test are shown in the table.

Score	Frequency
13	3
14	5
15	6
16	4
17	2

(a) Complete the bar chart below for the students' scores.



(1)

(b) The students need to score more than 15 to pass the test.

One student is selected at random.
What is the probability that the student selected passed the test?

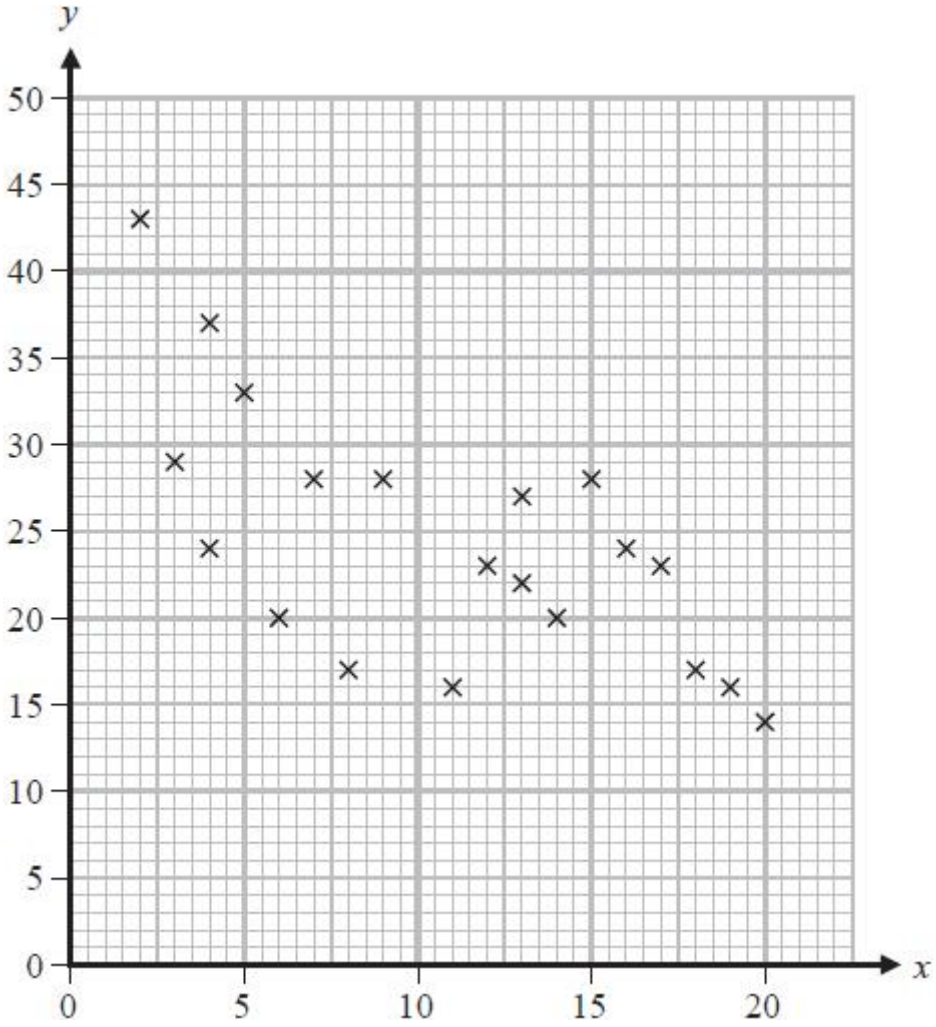
.....

(2)

(Total for question = 3 marks)
(**QU18 LMA11/01, June 2019**)

Q7.

Draw a line of best fit on the scatter graph below.



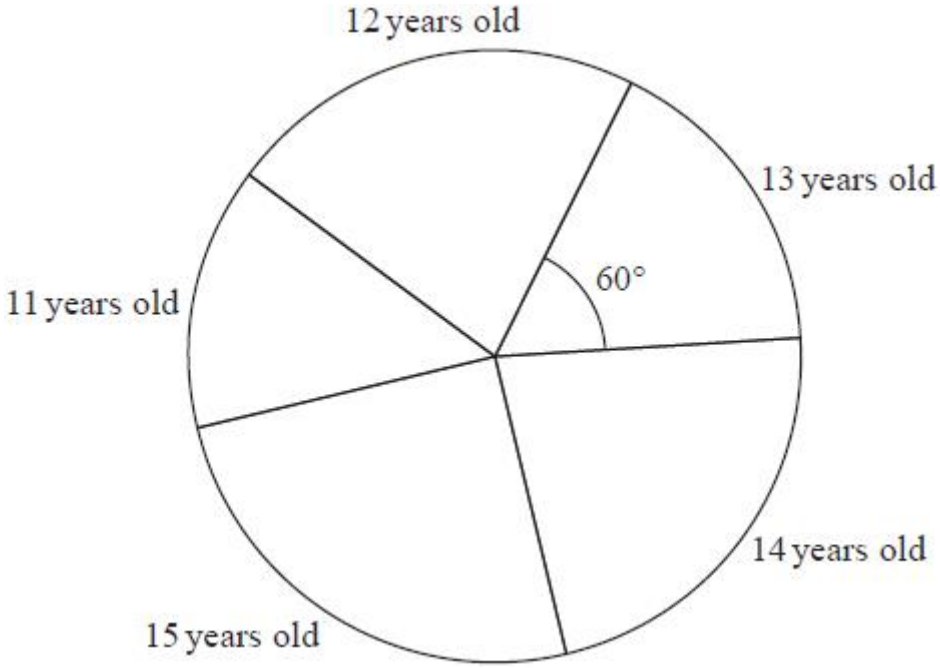
(Total for question = 1 mark)

(**QU17 LMA11/01, Oct 2021**)

Q8.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

This pie chart shows the ages of 240 children at a school.



How many of the children are 13 years old?

40	60	80	144
☒	☒	☒	☒

(Total for question = 1 mark)
(**QU11 LMA11/01, June 2019**)

Q9.

Tayyibah and Aston both want to find out how much money students bring to school.

Tayyibah asks all 30 students in her form.
Aston asks 50 students that he chose at random from the whole school.

Give **two** reasons why Aston's sampling method is better than Tayyibah's.

1 .....

.....

2 .....

.....

(Total for question = 2 marks)

(**QU23 LMA11/01, Oct 2022**)

Q10.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

Students in a class are asked their age and how many siblings they have.

The results are recorded in the table below.

	No siblings	One sibling	Two siblings	Three siblings
Age 13	5	7	6	2
Age 14	3	5	4	0

How many 13-year-old students have more than one sibling?

8	12	15	20
☐	☐	☐	☐

(Total for question = 1 mark)

(**QU05 LMA11/01, June 2021**)

Q11.

80 children took part in either track or field events.

	Track	Field	Total
Boys		12	35
Girls	19		
Total			80

How many children took part in field events in total?

.....

(Total for question = 2 marks)

(**QU19 LMA11/01, Oct 2022**)

Q12.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

There are 30 students in a class.

Each student plays a game against their teacher which they either win, draw or lose.

Each student then takes a test that they can pass or fail.

Some information about the students is recorded in the two-way table below.

	Win	Draw	Lose	Total
Pass	8	5		**21**
Fail			4	
Total	**11**			**30**

How many students **draw** the game and **fail** the test?

2 ☐ 7 ☐ 9 ☐ 16 ☐

(Total for question = 1 mark)

(**QU06 LMA11/01, Oct 2021**)

Q13.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

There are 450 students in a school.

Each of the students speaks one foreign language.

The foreign language that each student speaks is displayed in the pie chart below.

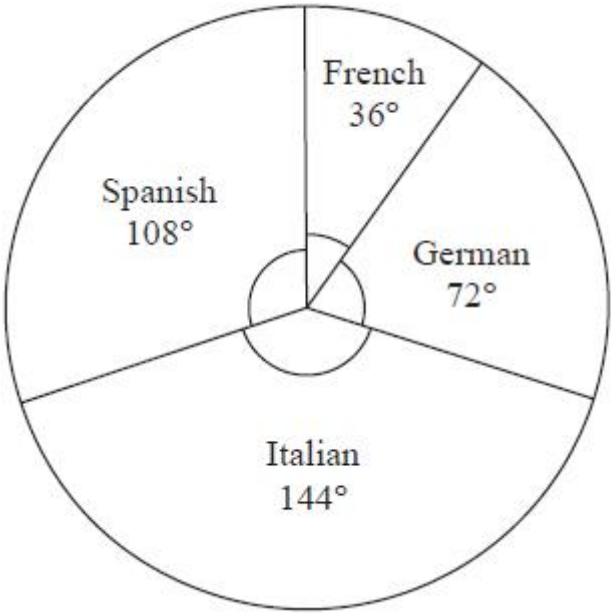


Diagram **NOT** accurately drawn

How many students in the school speak German?

72	90	180	324
☒	☒	☒	☒

(Total for question = 1 mark)

(**QU11 LMA11/01, Oct 2020**)

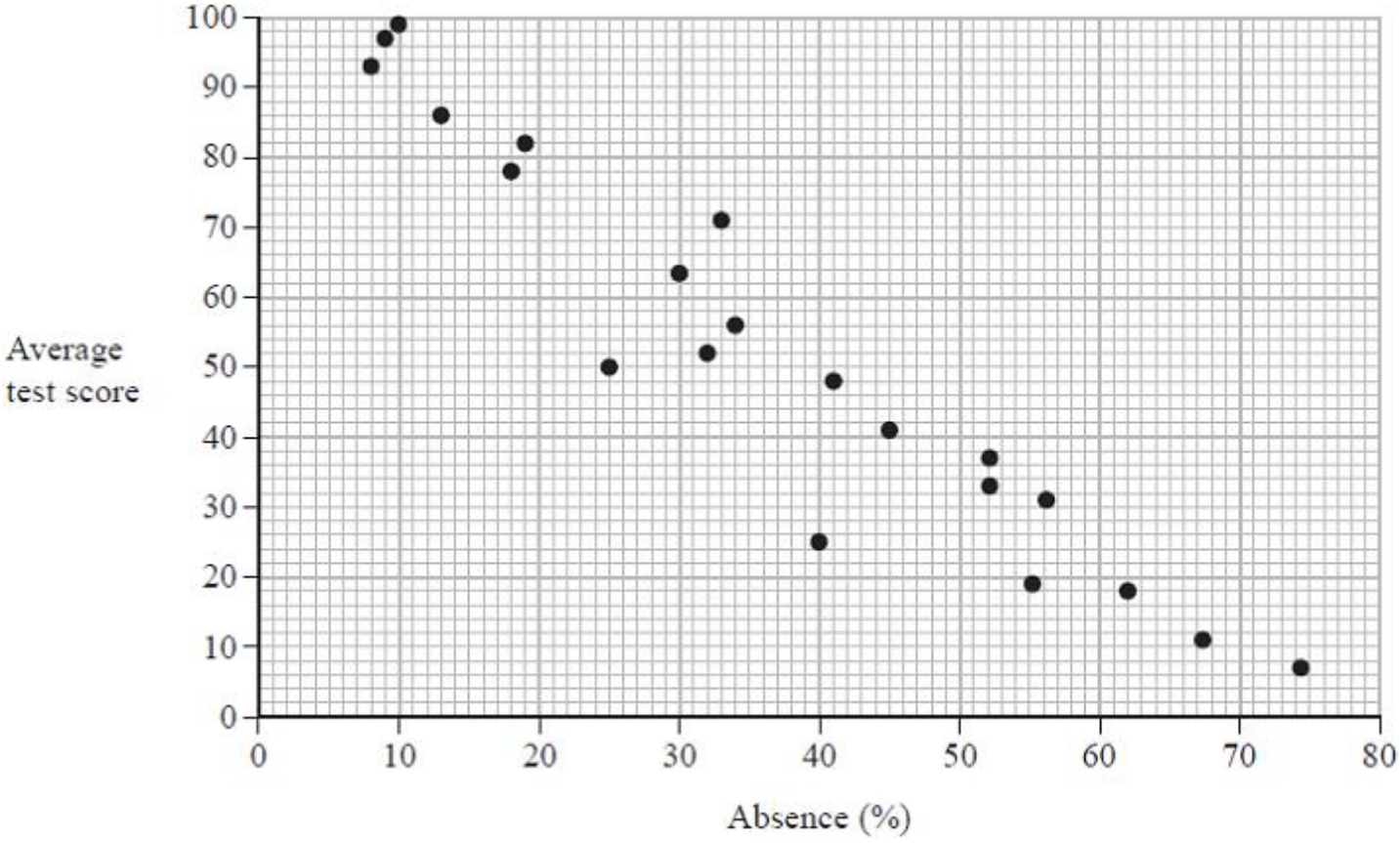
Q14.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

The absence and average test score of each student in a class are shown in a scatter graph.

A student with 25% absence joins the class.

What would be the best estimate of his average test score?



40 ☐ 50 ☐ 60 ☐ 70 ☐

(Total for question = 1 mark)

(**QU11 LMA11/01, June 2022**)

Q15.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

Find the mean of

3.41 4.56 4.56 5.26 6.35 7.11 8.93

4.56	5.26	5.52	5.74
☐	☐	☐	☐

(Total for question = 1 mark)

(**QU03 LMA11/01, June 2021**)

Q16.

There are 3 boys and 2 girls in a group.

The boys are called Piotr, Quentin and Ravi.

The girls are called Serena and Tabassum.

Two people will be selected to represent the group at a meeting.

(a) Piotr suggests that one boy and one girl should be selected at random to represent the group.

List all the possible outcomes that could occur by using Piotr's method.

.....

.....

(2)

(b) Serena suggests that the two people with the best average test score should be selected to represent the group.

The test scores for each person in the group are shown in the table.

	Piotr	Quentin	Ravi	Serena	Tabassum
Test 1	36	45	42	51	
Test 2	44		26	17	40
Test 3	27	19		35	33

Which two people should be chosen using Serena's suggestion?

.....

(3)

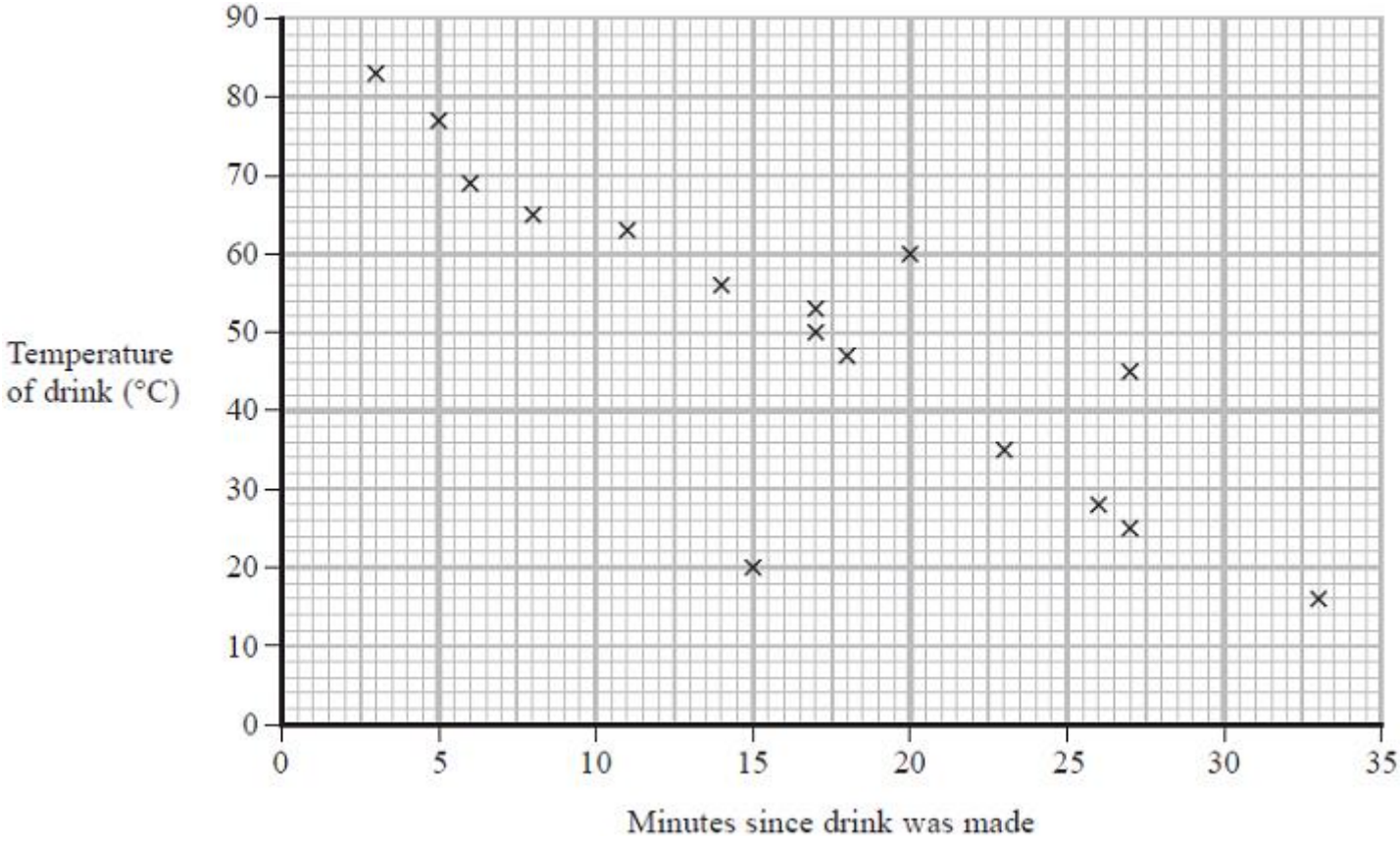
(Total for question = 5 marks)

(**QU23 LMA11/01, June 2019**)

Q17.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

Use the scatter graph to predict the temperature of a drink that has been made for 20 minutes.



15 °C ☐ 30 °C ☐ 40 °C ☐ 60 °C ☐

(Total for question = 1 mark)

(**QU11 LMA11/01, Oct 2022**)

Q18.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

What is the mean of these numbers?

50.3 30.1 43.5 41.5 74.5 51.1 41.5

A	B	C	D
41.5	43.5	44.4	47.5
☐	☐	☐	☐

(Total for question = 1 mark)

(**QU04 LMA11/01, SAM 0**)

Q19.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

The age of 15 customers in a shop are recorded in the stem and leaf diagram.

Stem	Leaf
2	5 8 9
3	2 3 3 5 7
4	1 4 5
5	5 7 9
6	0

Key: 2 | 5 means 25

What is the median age of the customers in the shop?

4	5	37	44
☐	☐	☐	☐

(Total for question = 1 mark)

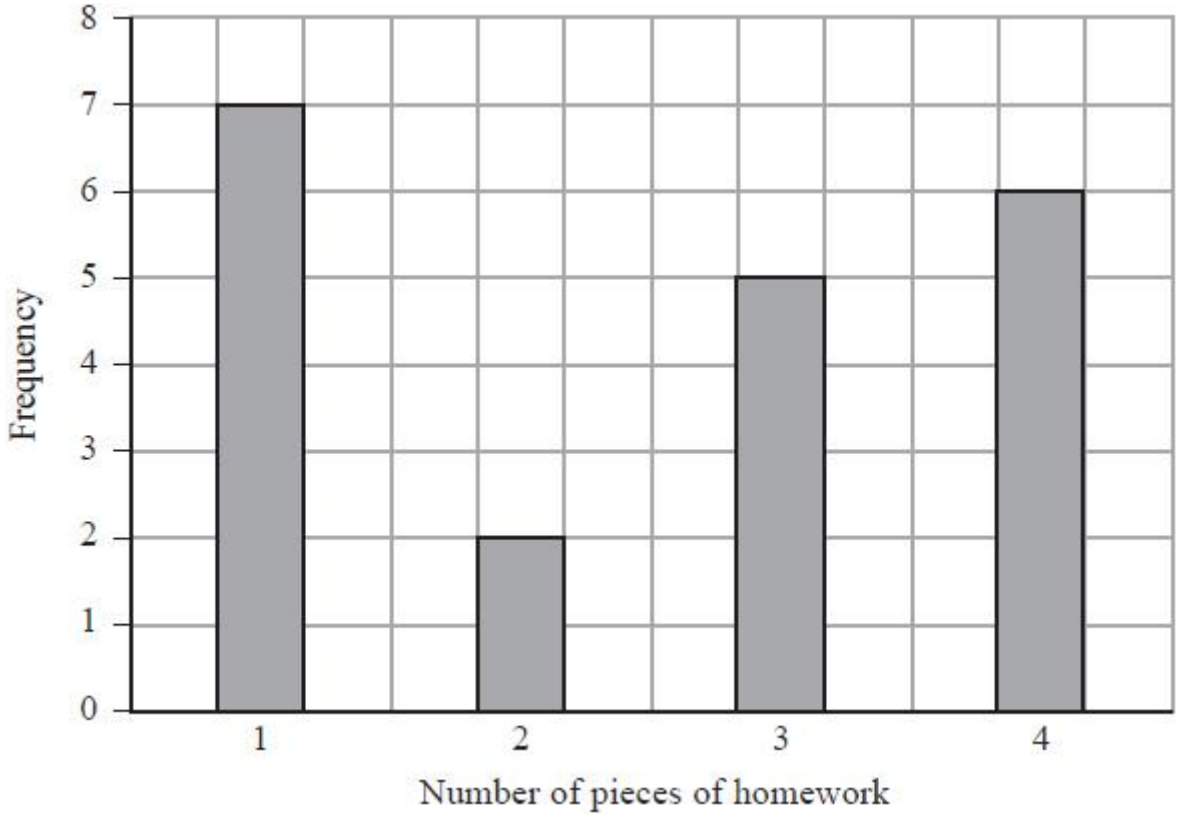
(**QU06 LMA11/01, June 2019**)

Q20.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

20 children are asked how many pieces of homework they got that day.

The results are shown in the bar chart below.



What is the modal number of pieces of homework per child?

1	2.5	3	7
☐	☐	☐	☐

(Total for question = 1 mark)

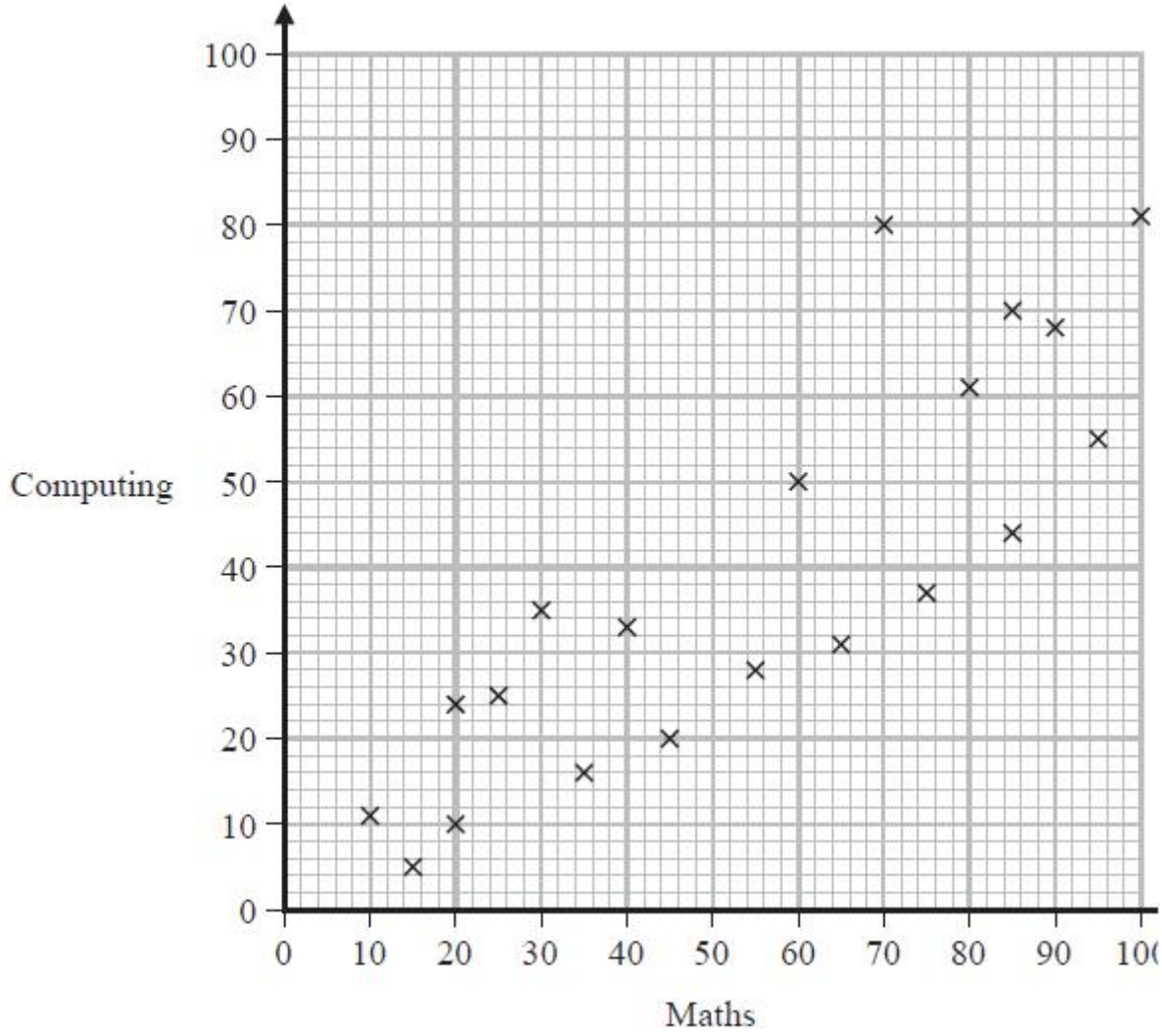
(**QU03 LMA11/01, Oct 2020**)

Q21.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

A group of students each took a test in Maths and then a test in Computing.

Their scores from each of the tests are displayed on the scatter graph below.



Another student took the Maths test and scored 70 marks.

What mark would this student be predicted to get on the Computing test?

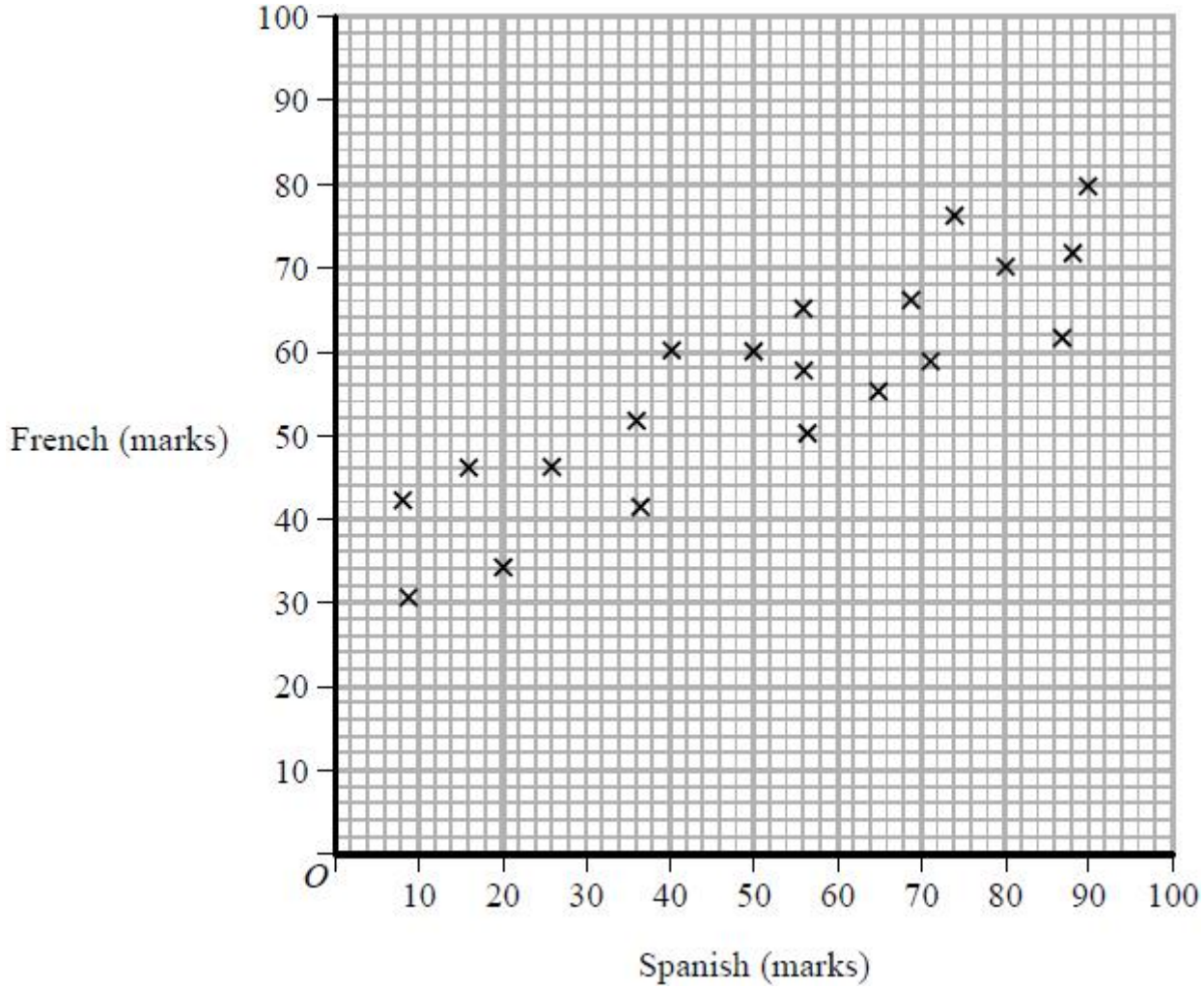
50	80	85	100
☐	☐	☐	☐

(Total for question = 1 mark)

(**QU08 LMA11/01, Oct 2021**)

Q22.

The scatter graph shows marks gained by students on a Spanish test and a French test.



(a) Name the type of correlation between the marks in Spanish and the marks in French.

.....

(1)

(b) A student was absent for the French test.

They scored 45 marks on the Spanish test.
Estimate the score they would have got on the French test.

.....

(2)

(Total for question = 3 marks)

(**QU28 LMA11/01, SAM 0**)

Q23.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

Six numbers are written on a piece of paper.
The mean of the six numbers is 14
The median of the six numbers is 13
Three of the numbers are 10, 12 and 15

Which of the following could the other three numbers be?

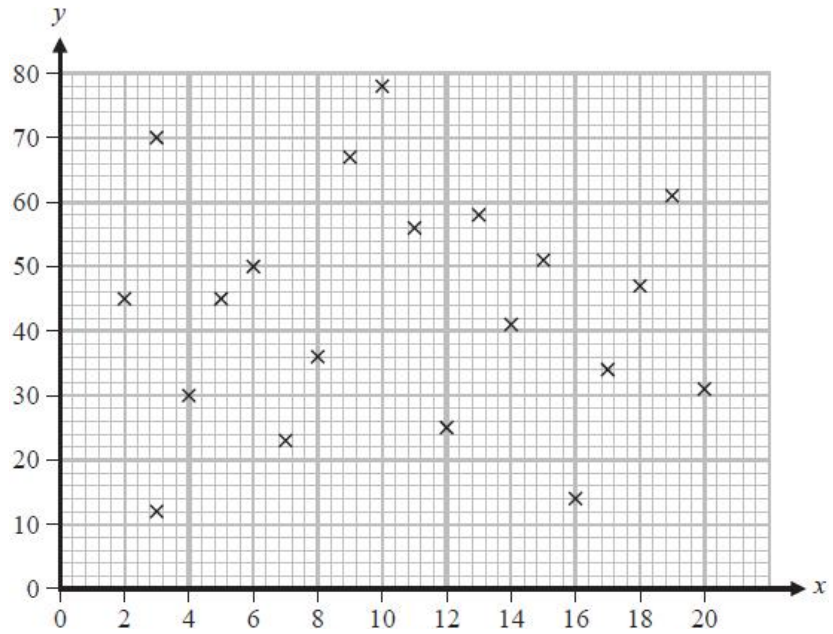
1, 15, 31	11, 13, 18	11, 14, 22	13, 13, 22
☐	☐	☐	☐

(Total for question = 1 mark)
(**QU15 LMA11/01, June 2019**)

Q24.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

Which phrase describes the relationship illustrated on the scatter graph below?



Direct correlation	Positive correlation	Negative correlation	No correlation
☐	☐	☐	☐

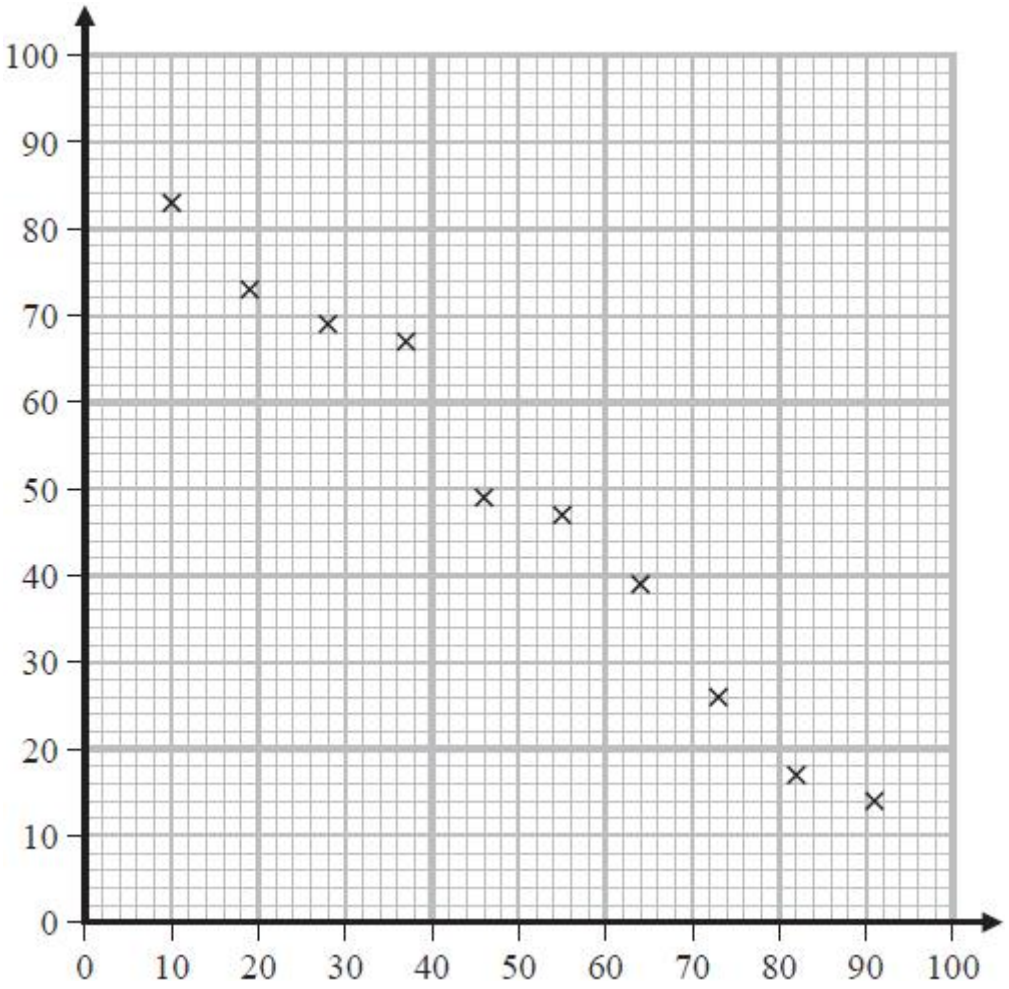
(Total for question = 1 mark)

(**QU05 LMA11/01, Oct 2021**)

Q25

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

Which word describes the correlation shown on the scatter graph below?



Direct ☐ Downward ☐ Negative ☐ Positive ☐

(Total for question = 1 mark)

(**QU04 LMA11/01, June 2021**)