Examiner's use only

Team Leader's use only

Materials required for examination
Ruler graduated in centimetres and
millimetres, protractor, compasses,
pen, HB pencil, eraser, calculator.
Tracing paper may be used.

Items included with question papers
Nil

Instructions to Candidates

In the boxes above, write your centre number, candidate number, your surname, initials and signature.
Check that you have the correct question paper.
Answer ALL the questions. Write your answers in the spaces provided in this question paper.
You must NOT write on the formulae page.
Anything you write on the formulae page will gain NO credit.
If you need more space to complete your answer to any question, use additional answer sheets.

Information for Candidates

The marks for individual questions and the parts of questions are shown in round brackets: e.g. **(2)**.
There are 26 questions in this question paper. The total mark for this paper is 100.
There are 24 pages in this question paper. Any blank pages are indicated.
Calculators may be used.
If your calculator does not have a π button, take the value of π to be 3.142 unless the question instructs otherwise.

Advice to Candidates

Show all stages in any calculations.
Work steadily through the paper. Do not spend too long on one question.
If you cannot answer a question, leave it and attempt the next one.
Return at the end to those you have left out.

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Compiled by Peter Bland

Turn over

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1. The table below gives some information about some students in a school.

Year group	Boys	Girls	Total
Year 12	126	94	220
Year 13	77	85	162
Total	203	179	382

Andrew is going to carry out a survey of these students.
He uses a sample of 50 students, stratified by year group and gender.

Work out the number of Year 13 girls that should be in his sample.

....

(Total 2 marks)

2.

	Male	**Female**
First year	399	602
Second year	252	198

The table gives information about the numbers of students in the two years of a college course.

Anna wants to interview some of these students.
She takes a random sample of 70 students stratified by year and by gender.

Work out the number of students in the sample who are male and in the first year.

....

(Total 3 marks)

Q2

3. The table shows some information about the heights (h cm) of 100 students.

Height (h cm)	Frequency		
$120 \leqslant h < 130$	8		
$130 \leqslant h < 140$	16		
$140 \leqslant h < 150$	25		
$150 \leqslant h < 160$	30		
$160 \leqslant h < 170$	21		

(a) Find the class interval in which the median lies.

....
(1)

(b) Work out an estimate for the mean height of the students.

.... cm
(4)

(Total 5 marks)

4. Majid carried out a survey of the number of school dinners 32 students had in one week.

The table shows this information.

Number of school dinners	Frequency	
0	0	
1	8	
2	12	
3	6	
4	4	
5	2	

Calculate the mean.

....

(Total 3 marks)

Q4

5. Bianca asked 32 women about the number of children they each had.

The table shows information about her results.

Number of children	Frequency	
0	9	
1	6	
2	7	
3	8	
4	2	
more than 4	0	

(a) Find the mode.

....

(1)

(b) Calculate the mean.

....

(3)

(Total 4 marks)

6. The table shows some information about the ages, in years, of 60 people.

Age (in years)	Frequency
0 to 9	6
10 to 19	13
20 to 29	12
30 to 39	9
40 to 49	7
50 to 59	3
60 to 69	10

(a) Write down the modal class.

....
(1)

Luke says

'The median lies in the class 30 to 39'

Luke is wrong.

(b) Explain why.

....

....
(1)
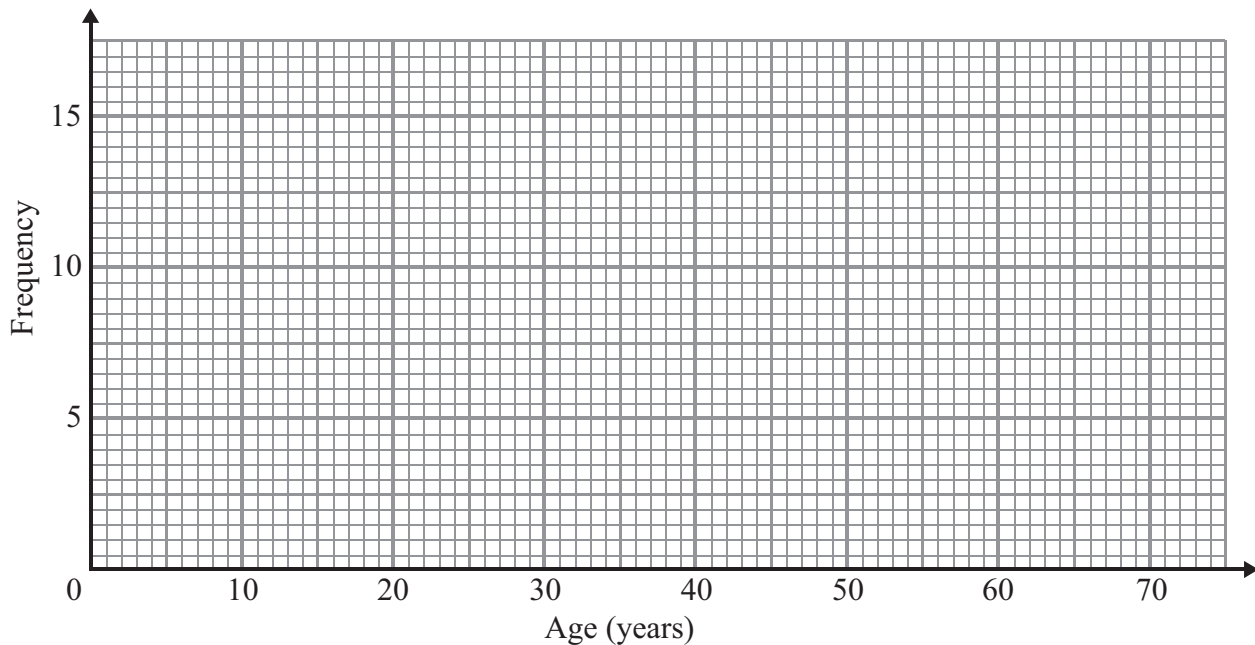
(c) On the grid, draw a frequency polygon for the information in the table.

(2)

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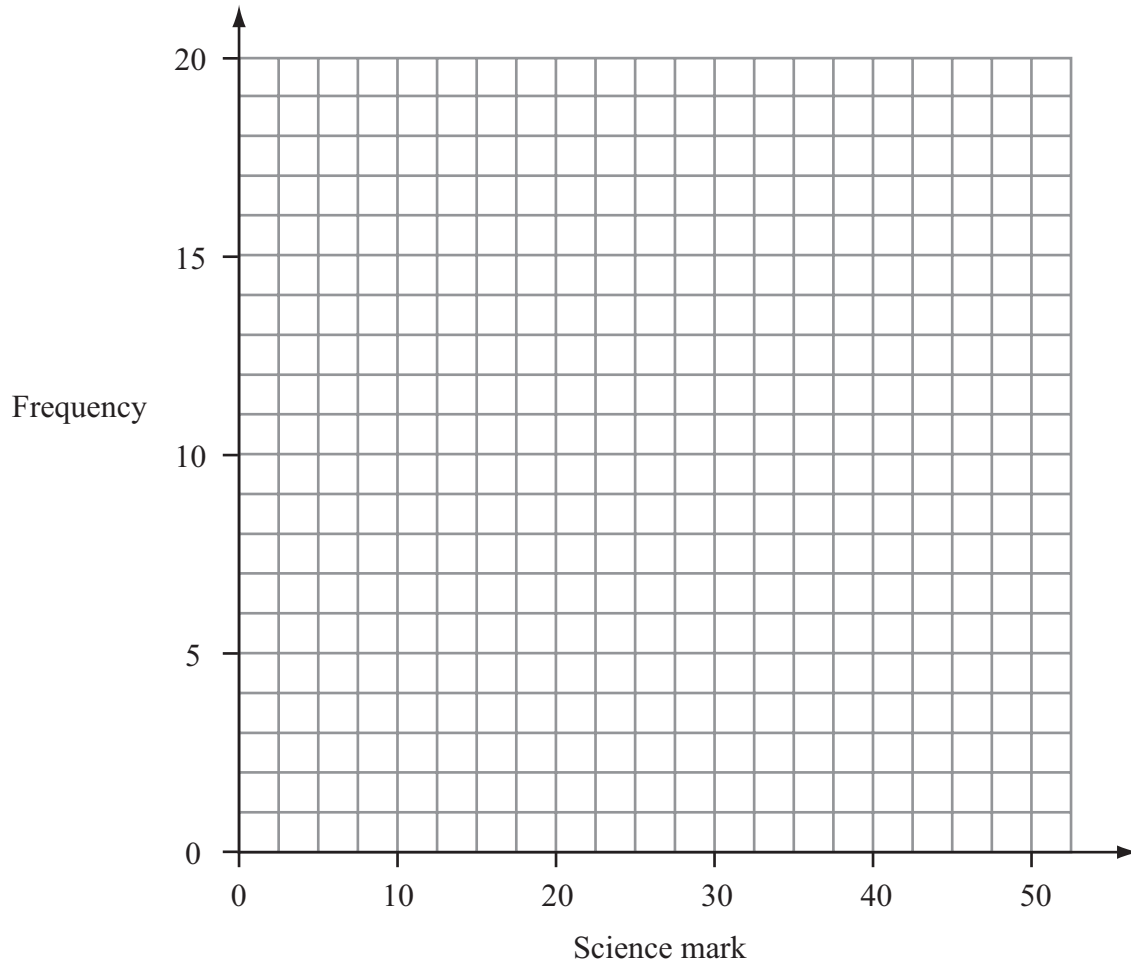
(Total 4 marks)

7. 60 students take a science test.
The test is marked out of 50.

This table shows information about the students' marks.

Science mark	0–10	11–20	21–30	31–40	41–50
Frequency	4	13	17	19	7

On the grid, draw a frequency polygon to show this information.

Frequency

Science mark

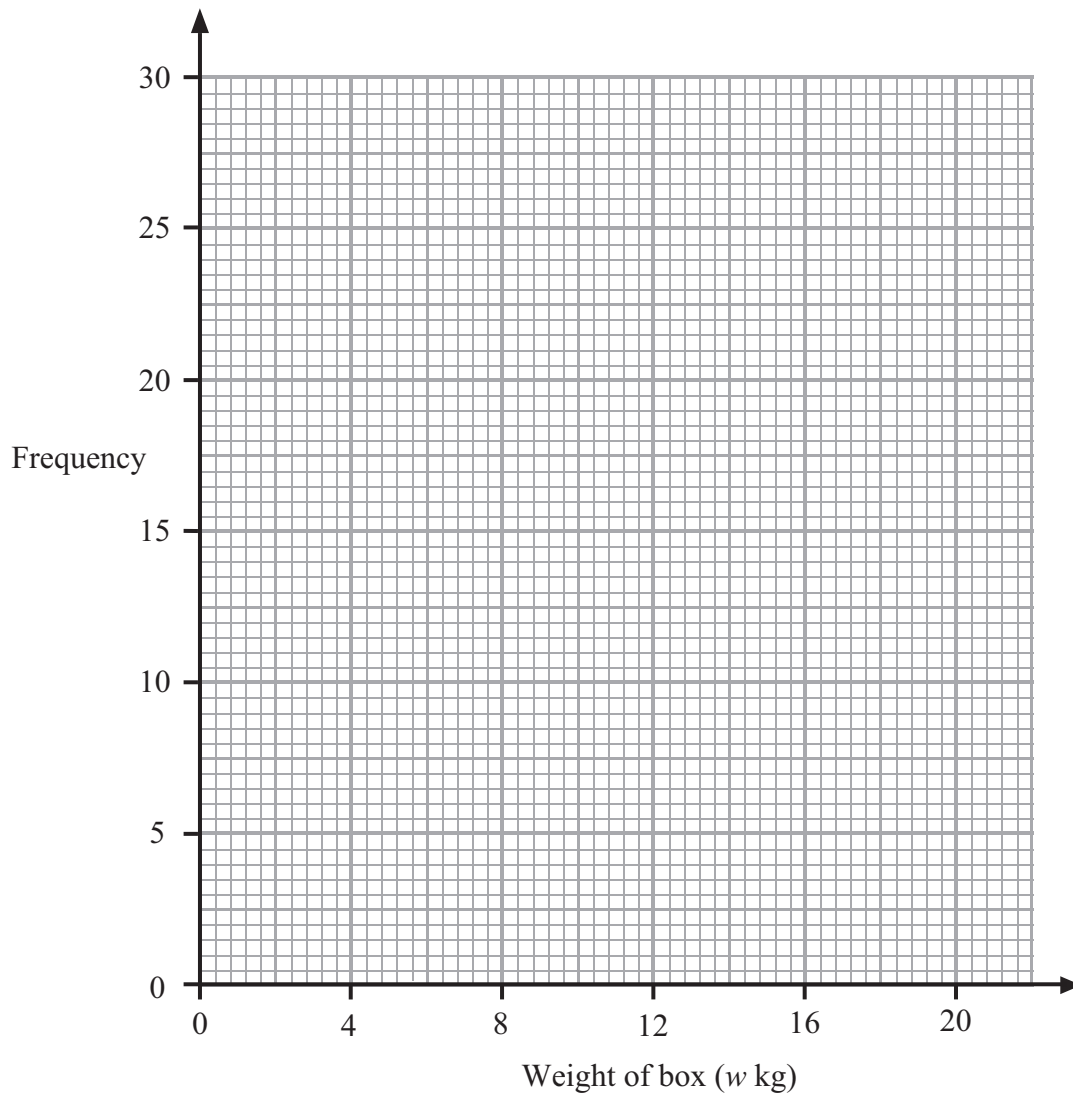**(Total 2 marks)**

8. The table shows some information about the weights, in kg, of 100 boxes.

Weight of box (*w* kg)	Frequency
$0 < w \leqslant 4$	10
$4 < w \leqslant 8$	17
$8 < w \leqslant 12$	28
$12 < w \leqslant 16$	25
$16 < w \leqslant 20$	20

Draw a frequency polygon to show this information.

Weight of box (*w* kg)

(Total 2 marks)

Q8

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