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General Certificate of Secondary Education
June 2006

MATHEMATICS (MODULAR) (SPECIFICATION B)   **43001/HA**
Module 1   Higher Tier Section A

H

AQA

ASSESSMENT and
QUALIFICATIONS
ALLIANCE

Practice Paper (Two-tier Specification) 2008

For this paper you must have:
- a scientific calculator
- mathematical instruments
- a treasury tag

Time allowed for Section A: 25 minutes

Instructions

- Use blue or black ink or ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- Answer the questions in the spaces provided.
- Use a calculator where appropriate.
- Do all rough work in this book.
- This paper is divided into two sections: Section A and Section B.
- After the 25 minutes allowed for Section A, you must put your calculator on the floor under your seat. You will then be given Section B.
- When you have answered Section B you may work again on Section A but you may **not** use your calculator. It must remain on the floor under your seat.
- At the end of the examination tag Section A and Section B together with Section A on top.

Information

- The maximum mark for Section A is 20.
- The marks for questions are shown in brackets.
- You may ask for more answer paper and graph paper. These must be tagged securely to this answer book.

Advice

- In all calculations, show clearly how you work out your answer.

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Answer **all** questions in the spaces provided.

1 Beth records the time, in minutes, she spends doing homework each school night for three weeks.

47	35	54	50	63
38	49	72	66	62
55	69	69	42	70

Beth attempts to draw an ordered stem-and-leaf diagram to show these amounts.
This is her diagram.

Key   3 | 5 represents 35 minutes

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3 | 5  8
4 | 7  9  2
5 | 0  4  5
6 | 2  3  6  9
  | 0  2
```
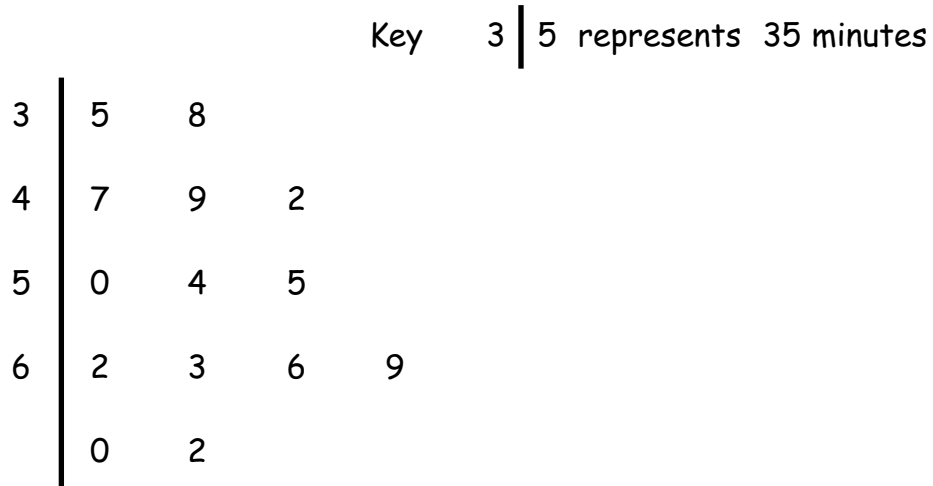
Beth has made **three** mistakes in her diagram.

Write down the mistakes she has made.

Answer

1 ....

2 ....

3 ....

(3 marks)

3

2 The number of magazines sold each day by a village shop is recorded for one month.

Number of magazines	Frequency	
0	6	
1	7	
2	9	
3	4	
4	3	
5	1	
Total	**30**	

Calculate the mean number of magazines sold each day.

....

....

....

....

Answer .... magazines *(3 marks)*

Turn over for the next question

Turn over ▶

3   There are 475 girls in a school.
The probability that a girl studies French is 0.6

(a)   How many girls study French?

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Answer .... *(2 marks)*

(b)   Altogether there are 900 pupils in the school.
Every pupil studies either French or German.
There are no pupils who study both.
The probability that a boy studies German is 0.52

Calculate the total number of pupils who study French.

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Answer .... *(3 marks)*
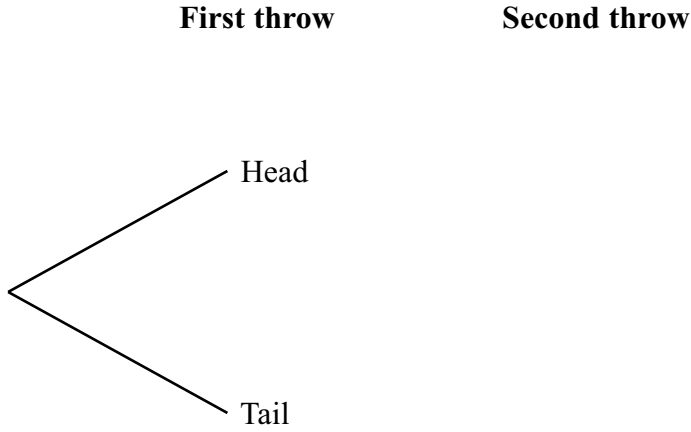
5

4 Jamie has a biased coin.
The probability that it will land on heads is $\frac{2}{5}$
Jamie throws the coin twice.

(a) Complete the tree diagram to show all the probabilities.

First throw   **Second throw**

Head

Tail

(3 marks)

(b) Calculate the probability that the coin lands on heads at least once.

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Answer .... *(3 marks)*
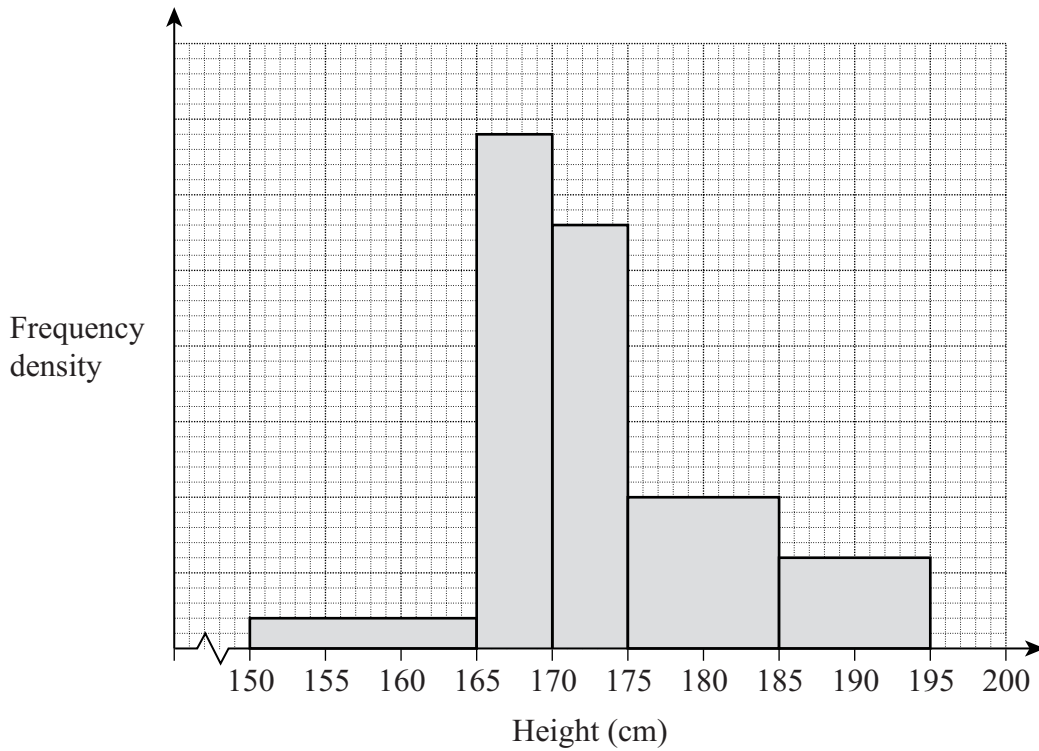
Turn over for the next question

6

Turn over ▶

5 The histogram shows the heights of a number of people who wanted to be dancers in a show.

There were 17 people between the heights of 165 cm and 170 cm.
Those people above 185 cm were not accepted for the show.

Calculate an estimate of the number of people who were **not** accepted.

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Answer .... *(3 marks)*

3

END OF SECTION A