

Sets & Venn Diagrams

Please write clearly in block capitals

Forename:

Surname:

Materials

For this paper you must have:

- mathematical instruments

You must **not** use a calculator.



Instructions

- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer all questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this book. Cross through any work you do not want to be marked.

Information

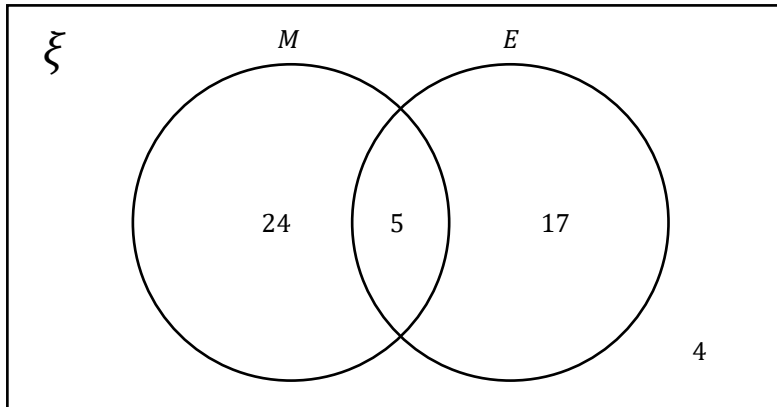
- The marks for questions are shown in brackets.
- You may ask for graph paper, tracing paper and more answer paper. These must be tagged securely to this answer book.

Advice

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

- 1** Students were polled on whether they liked maths or English classes.
The results are displayed in the Venn diagram below.

(Level 4)



- 1(a)** What is the probability that a student liked maths?

[1 mark]

Answer _____

- 1(b)** What is the probability that a student did not like English?

[1 mark]

Answer _____

- 1(c)** What is the probability that a student selected a single subject as their preference?

[1 mark]

Answer _____

Turn over for next question

2

A survey of 36 people was undertaken.

(Level 5)

Two thirds of people said they have a dog.

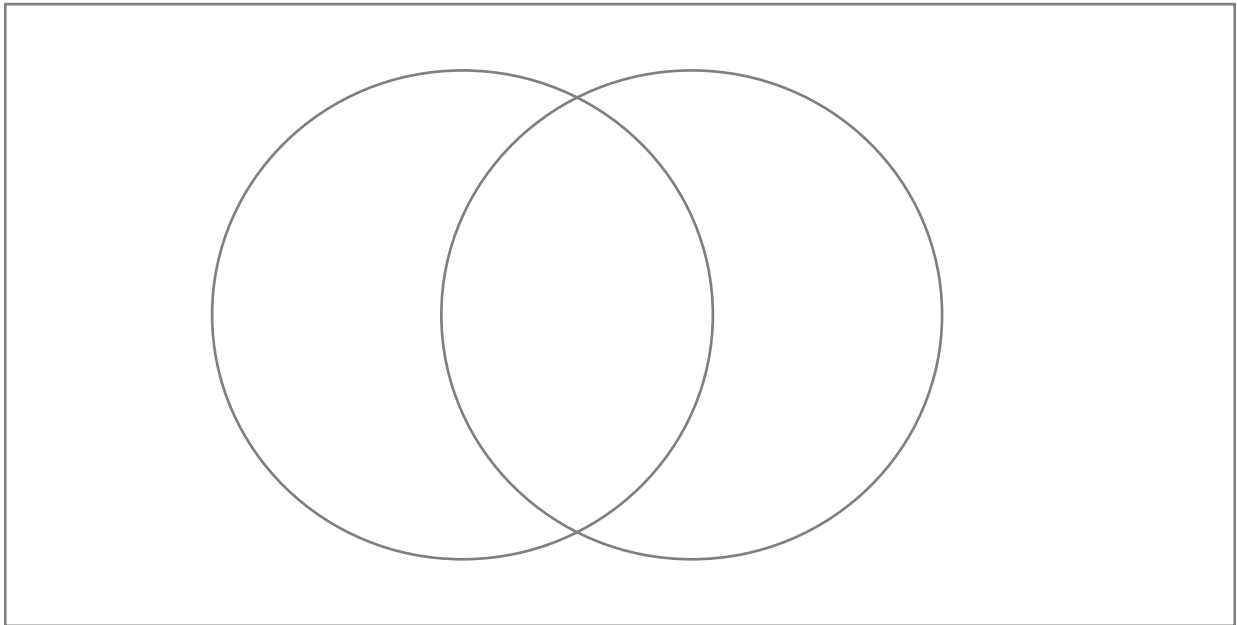
8 have a dog and a cat

10 people have only a cat

And two people have no pets.

Complete the Venn diagram using the information provided.

[3 marks]



GCSE Maths Revision Guide

- ✓ GCSE Maths Course 9-1 Revision Guide
- ✓ Exam Questions Included
- ✓ All exam boards - AQA, OCR, Edexcel, WJEC
- ✓ Suitable for higher and foundation tiers

Get it at mme.la/guide or scan the barcode



Turn over ►

3

Complete the following Venn diagram, given the information below.

(Level 6)

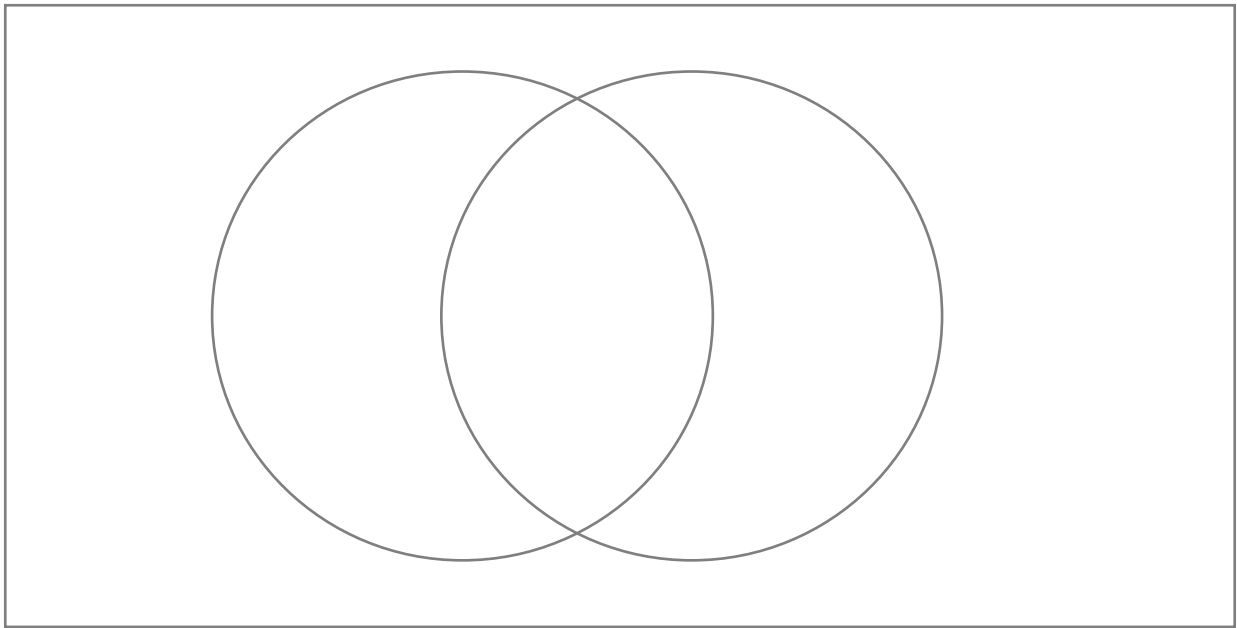
A travel company looks to record data on holidays taken.

Out of 200 people surveyed, 30% stayed in the UK for their holiday.

60% of people went abroad.

10% of people had two holidays, one abroad and one in the UK.

[3 marks]



MathsMadeEasy Revision App

- ✓ Video revision for every GCSE Maths topic
- ✓ Thousands of practice questions
- ✓ Online Mock Exams with video solutions

Try it now at mme.la/app or scan the barcode



4 Complete the following Venn diagram, given the information below.

(Level 6)

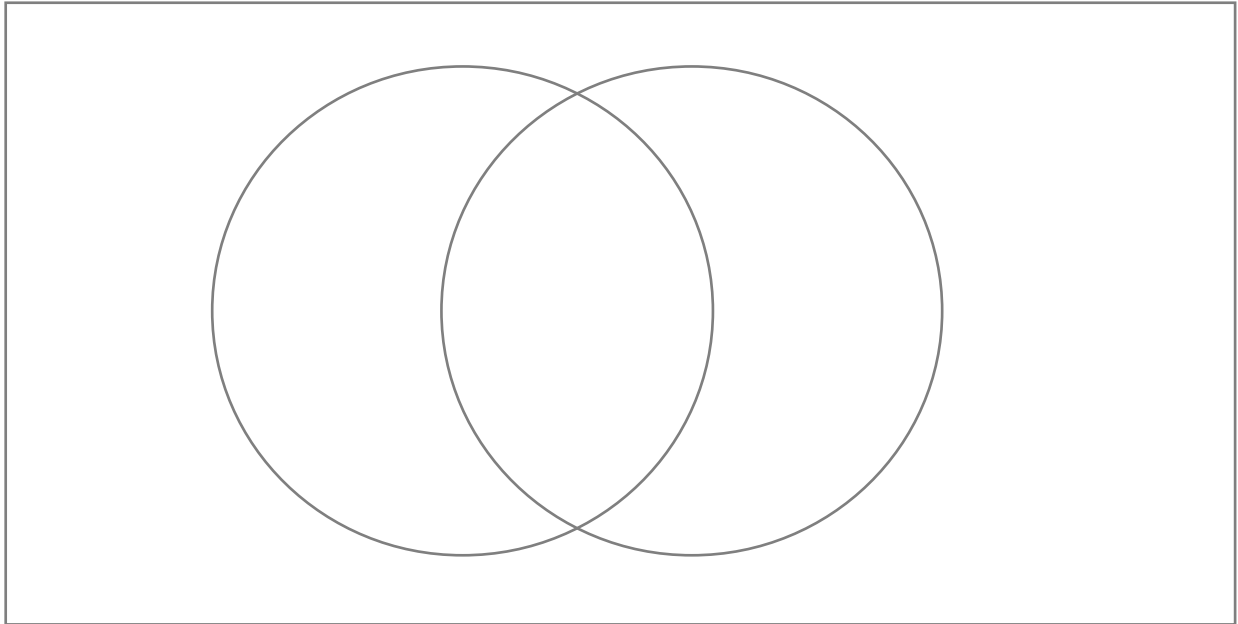
A group of 102 parents were asked questions on a survey.

40 went to university

58 did not attend university but have a job

24 went to university and have a job

[3 marks]



Turn over for next question

5 Complete the following Venn diagram using the information provided.

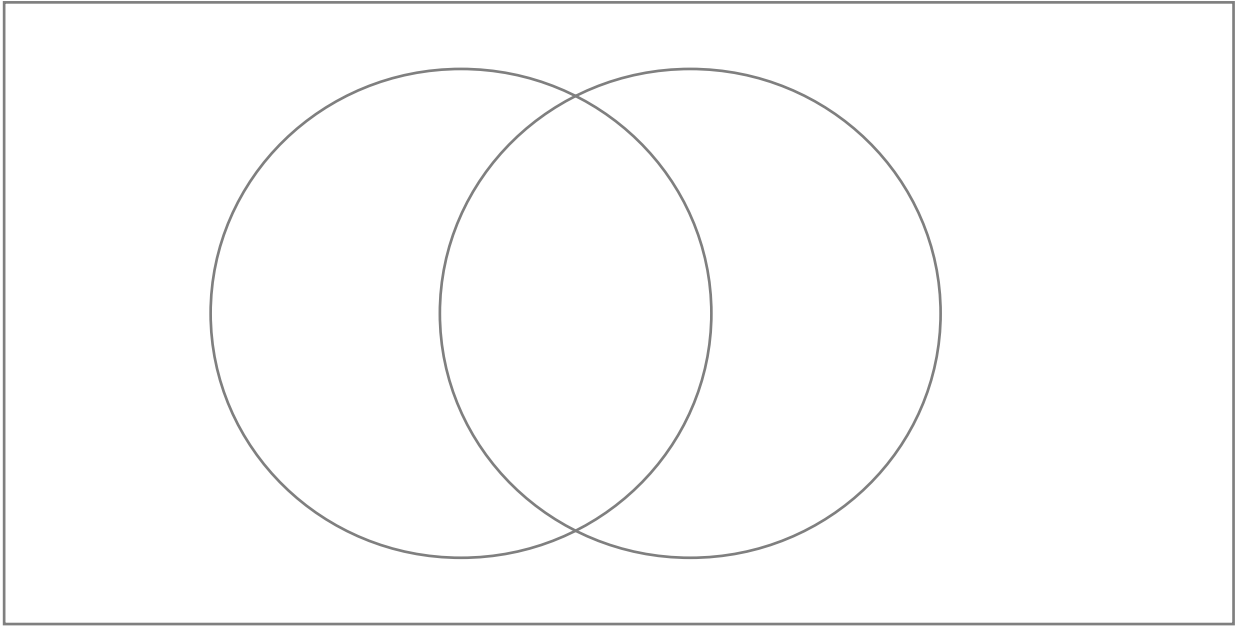
(Level 6)

$$\xi = \{43, 45, 58, 59, 62, 66, 68, 87\}$$

P = Multiples of 3.

$$Q' = \{58, 62, 66, 68\}$$

[3 marks]



GCSE Maths Revision Cards

- ✓ All major GCSE maths topics covered
- ✓ Higher and foundation
- ✓ All exam boards - AQA, OCR, Edexcel, WJEC

Get them at mme.la/cards or scan the barcode



Turn over ►

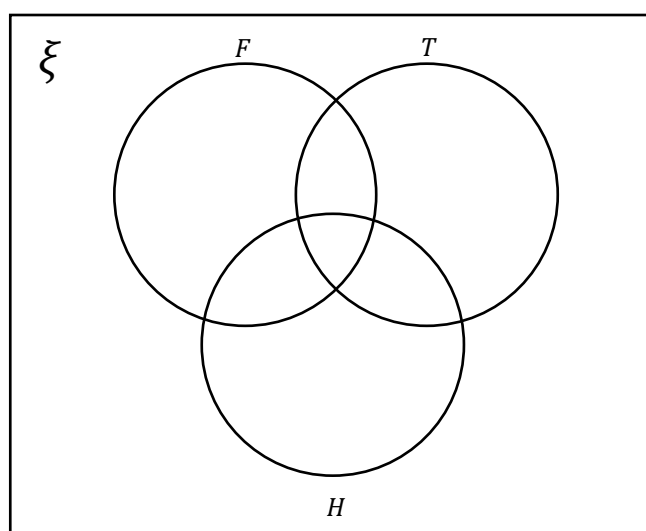
6 100 students were asked what their favourite sport was.

(Level 7)

- 6 students liked all three sports
- 24 students liked Hockey and Tennis
- 29 students liked Football and Hockey
- 20 students liked Football and Tennis
- 59 students like Hockey
- 17 students like only Football
- 4 students had no preference

6(a) Complete the Venn diagram below to represent this information.

[3 marks]



6(b) What is the probability that a student liked only Tennis?

[1 mark]

Answer _____

6(c) What is the probability a student liked exactly two sports?

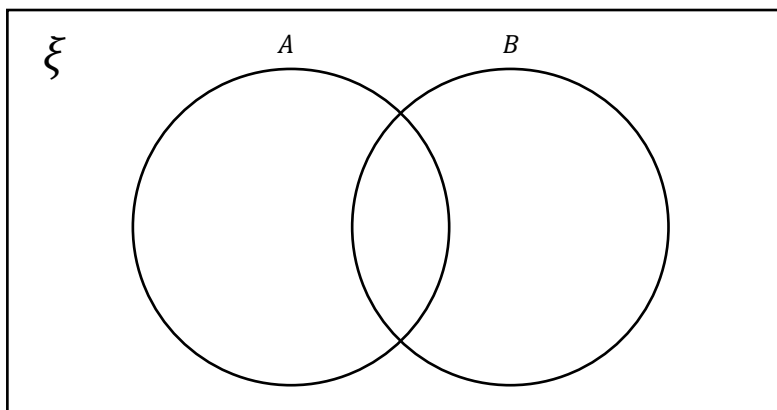
[1 mark]

Answer _____

7

Represent the following sets in the Venn diagram below

(Level 7)

 $\varepsilon = \{\text{factors of 140}\}$ $A = \{\text{prime numbers}\}$ $B = \{\text{multiples of 5}\}$ **[4 marks]****Turn over for next question**

8

Given the information below

(Level 7)

$$\varepsilon = \{\text{Integers from 1 to 10}\}$$

$$A = \{\text{Square numbers}\}$$

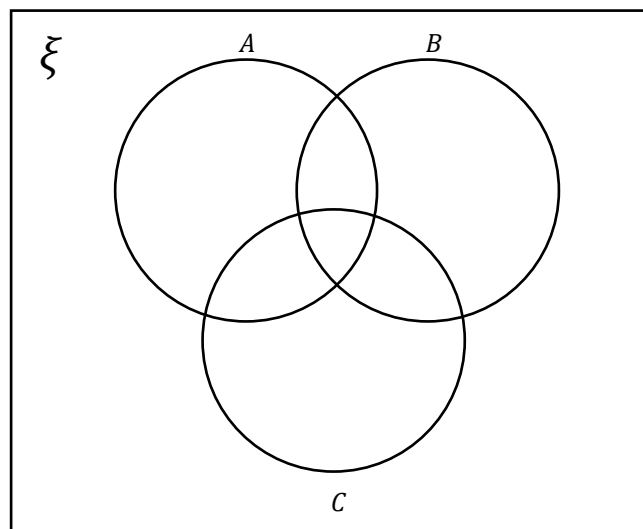
$$B = \{\text{Prime numbers}\}$$

$$C = \{1, 2, 3, 5, 8\}$$

8(a)

Complete the Venn diagram

[3 marks]



8(b)

What proportion of numbers in ε are not square numbers?

[1 marks]

Answer _____

End of questions