Venn Diagrams (F)
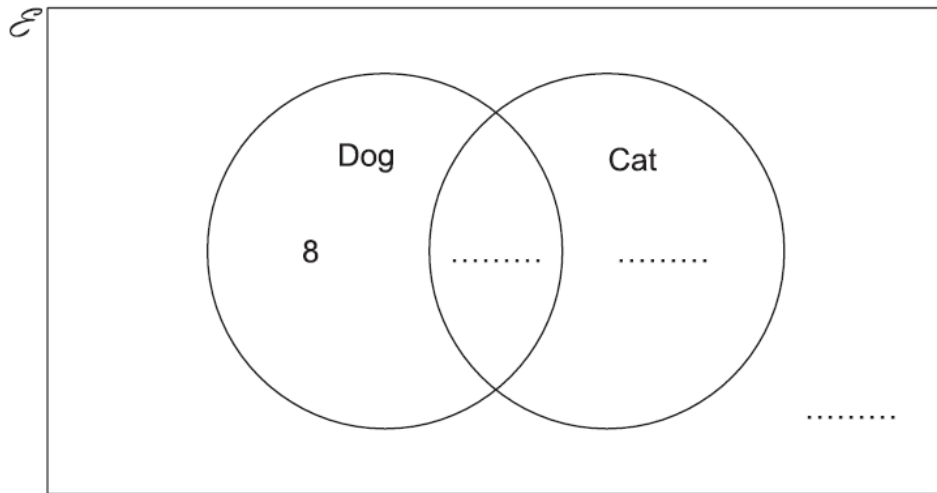
JustMaths

A collection of 9-1 Maths GCSE Sample and Specimen questions from AQA, OCR, Pearson-Edexcel and WJEC Eduqas.

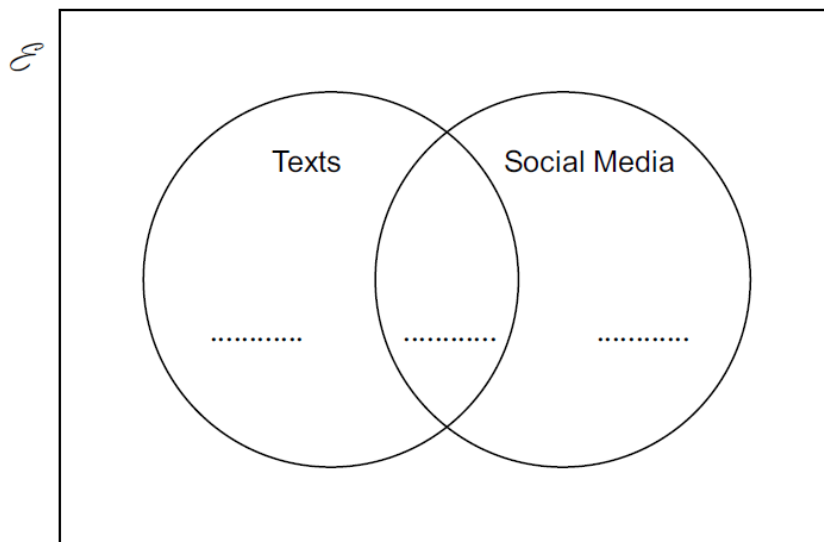| Name:	
Total Marks:	

1. Here is a Venn diagram.

30 students are asked if they have a dog or cat.

- 21 have a dog.

- 16 have a cat.

- 8 have a dog, but not a cat.

Complete the Venn diagram.

[3]

2. 50 students were asked in a survey whether they use texts or social media.

- 20 students said they only use texts.
- 8 students said they only use social media.
- 17 students said they use both texts and social media.

(a) Put this information on the Venn diagram.

[1]

(b) How many of the students in the survey do not use texts or social media?

(b) .... [2]

(c) One of the students in the survey is chosen at random.

What is the probability that this student uses texts?

(c)... [2]
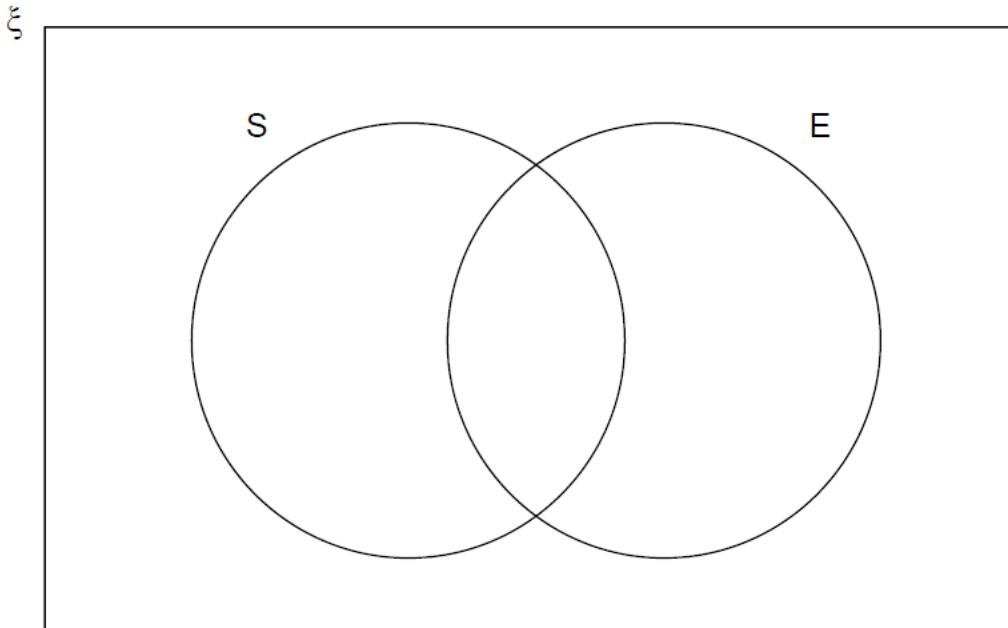
3. ξ = {1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12}

   S = square numbers

   E = even numbers

(a)   Complete the Venn diagram.

ξ

[3]

(b) One of the numbers is chosen at random.

Write down P (S ∩ E)
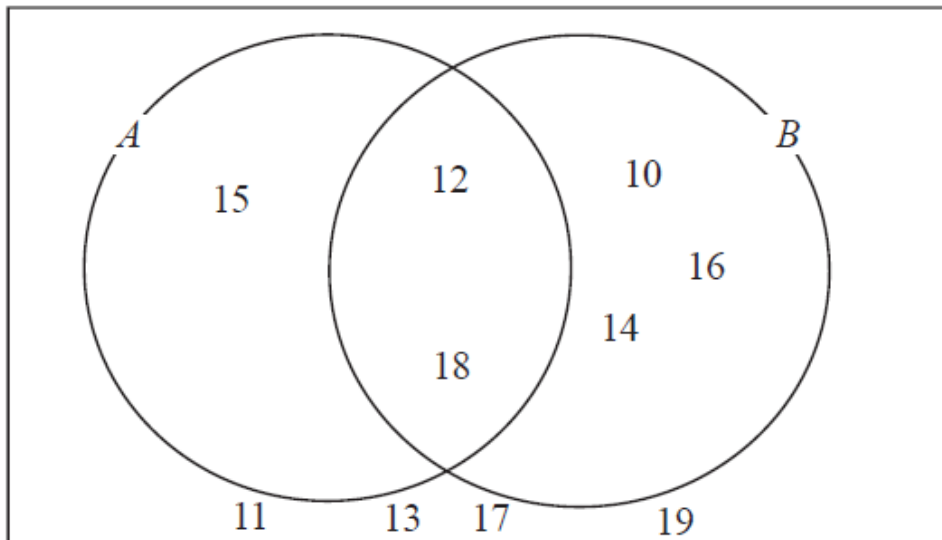
[1]

4. Last year, there were 36 pupils in a class.

Of these pupils, 20 studied French, 9 studied German and 3 studied both French and German.

A pupil was chosen at random from the class.

Find the probability that the pupil did not study French or German.

[4]

5. Here is a Venn diagram.

(a) Write down the numbers that are in set

(i) A ∪ B

....

(ii) A ∩ B

....

[2]

One of the numbers in the diagram is chosen at random.

(b) Find the probability that the number is in set A'

....

[2]

6. ξ = {1, 2, 3, 4, 5, 6, 7, 8, 9, 10}

   A = {multiples of 2}

   A ∩ B = {2, 6}
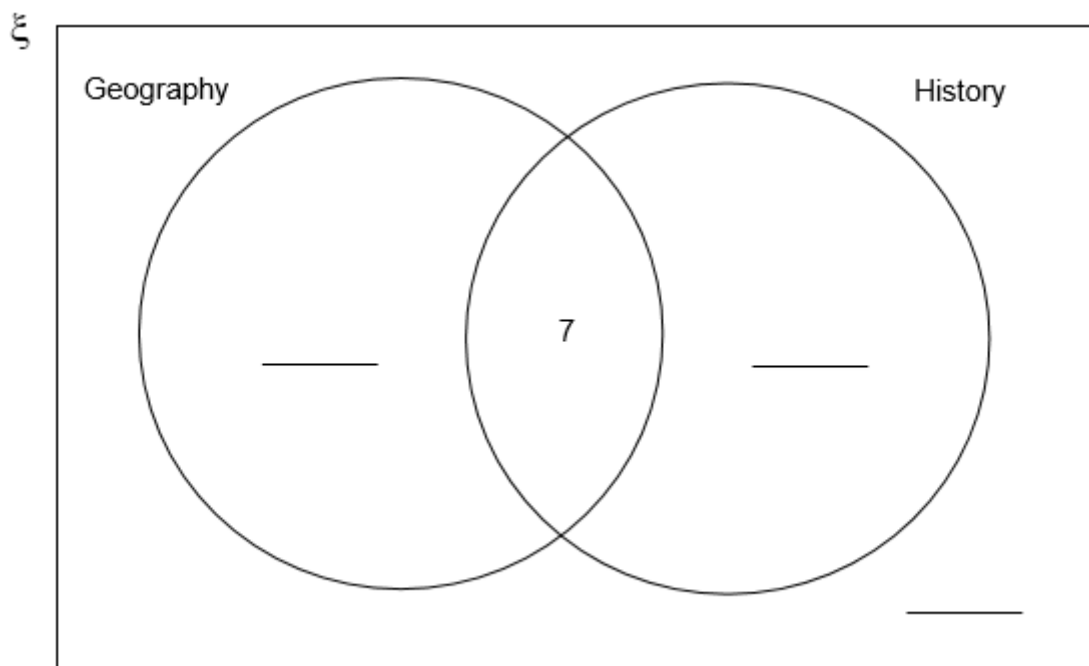
   A ∪ B = {1, 2, 3, 4, 6, 8, 9, 10}

Draw a Venn diagram for this information.

[4]

7. 50 students are asked if they study Geography or History.

   The Venn diagram shows some information about their answers.

a) What does the number 7 on the diagram represent?

[1]

b) 20 students study Geography but not History.

   19 students study History.

   Complete the Venn diagram.

[3]

CREDITS AND NOTES

Question	Awarding Body
1	OCR
2	OCR
3	AQA
4	WJEC Eduqas
5	Pearson Edexcel
6	Pearson Edexcel
7	AQA

Notes:

These questions have been retyped from the original sample/specimen assessment materials and whilst every effort has been made to ensure there are no errors, any that do appear are mine and not the exam board s (similarly any errors I have corrected from the originals are also my corrections and not theirs!).

Please also note that the layout in terms of fonts, answer lines and space given to each question does not reflect the actual papers to save space.

These questions have been collated by me as the basis for a GCSE working party set up by the GLOW maths hub - if you want to get involved please get in touch. The objective is to provide support to fellow teachers and to give you a flavour of how different topics "could" be examined. They should not be used to form a decision as to which board to use. There is no guarantee that a topic will or won't appear in the "live" papers from a specific exam board or that examination of a topic will be as shown in these questions.

Links:

AQA http://www.aqa.org.uk/subjects/mathematics/gcse/mathematics-8300

OCR http://ocr.org.uk/gcsemaths

Pearson Edexcel http://qualifications.pearson.com/en/qualifications/edexcel-gcses/mathematics-2015.html

WJEC Eduqas http://www.eduqas.co.uk/qualifications/mathematics/gcse/

Contents:

This version contains questions from:

AQA – Sample Assessment Material, Practice set 1 and Practice set 2

OCR – Sample Assessment Material and Practice set 1

Pearson Edexcel – Sample Assessment Material, Specimen set 1 and Specimen set 2

WJEC Eduqas – Sample Assessment Material