

GCSE Mathematics

F

Venn Diagrams & Set Notation

Foundation Tier | Grades 5-7

Total Marks	Time	Questions
36	36 min	20

Instructions:

- Do not use a calculator when you see: 
- Answer all questions in the spaces provided.
- Show all your working - marks are awarded for method as well as final answers.
- Cross through any work you do not want to be marked.
- Check your answers if you have time at the end.

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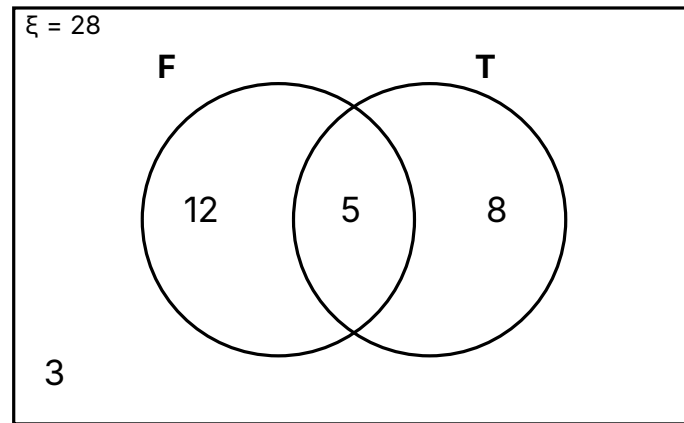
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Edexcel-style questions**Q1** 

Grade 5

Edexcel style

The Venn diagram shows the number of students who play Football (F) and Tennis (T). How many students play both Football and Tennis?



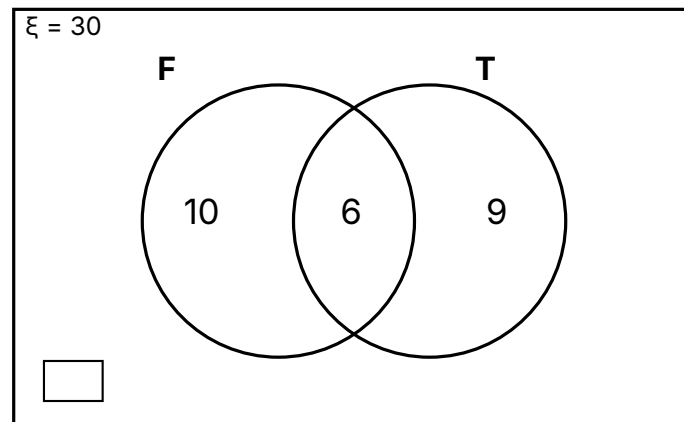
Answer _____

Q2

Grade 5

Edexcel style

The Venn diagram shows information about 30 students and the sports they play. Find the missing value.



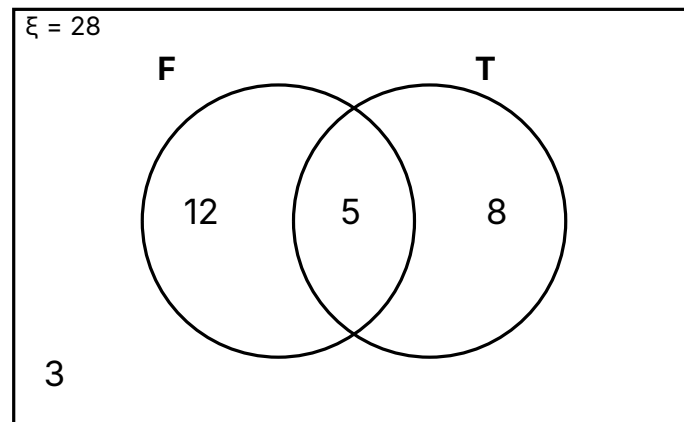
Answer _____

Q3

Grade 6

Edexcel style

The Venn diagram shows the number of students who play Football (F) and Tennis (T). Find $n(F \cup T)$.



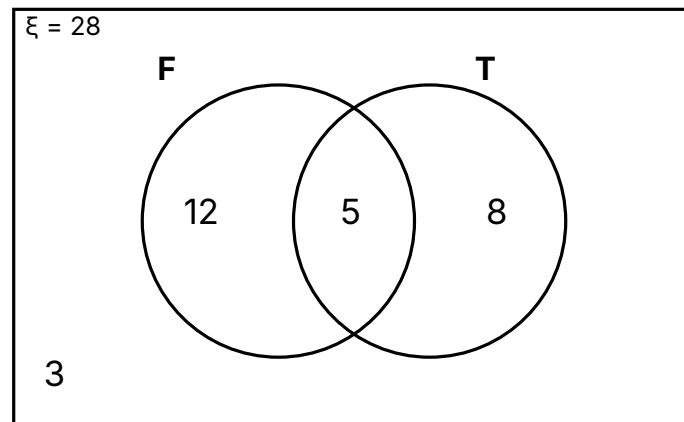
Answer _____

Q4

Grade 6

Edexcel style

The Venn diagram shows the number of students who play Football (F) and Tennis (T). A student is selected at random. Find the probability that they play Tennis.



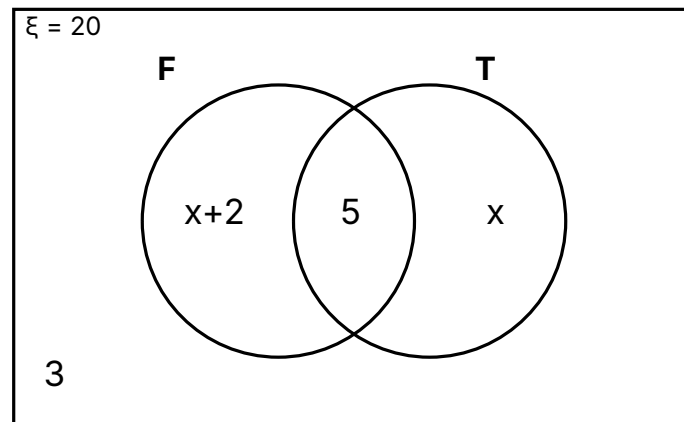
Answer _____

Q5

Grade 7

Edexcel style

The Venn diagram shows information about 20 students, with some regions given in terms of x . Find the value of x .



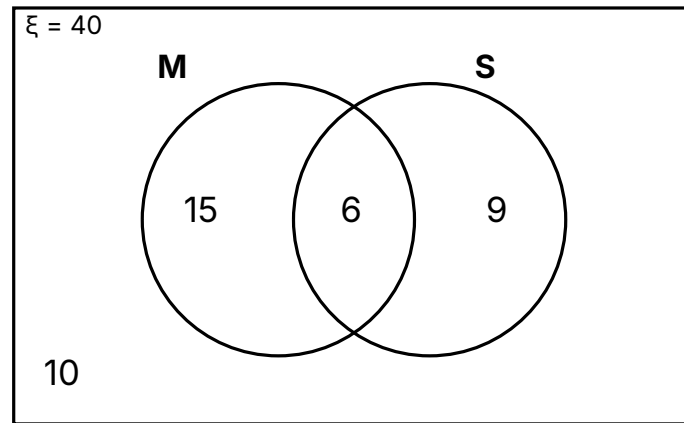
Answer _____

AQA-style questions**Q6** 

Grade 5

AQA style

The Venn diagram shows the number of students in the Maths club (M) and Science club (S).
How many students are in the Maths club only?



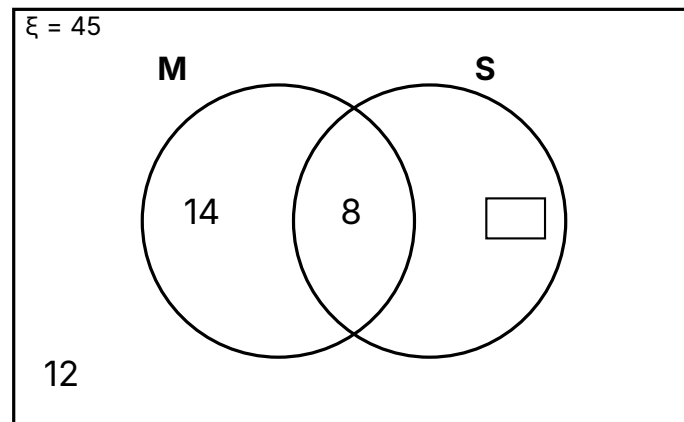
Answer _____

Q7

Grade 6

AQA style

The Venn diagram shows information about 45 students and their club memberships. Find the missing value.



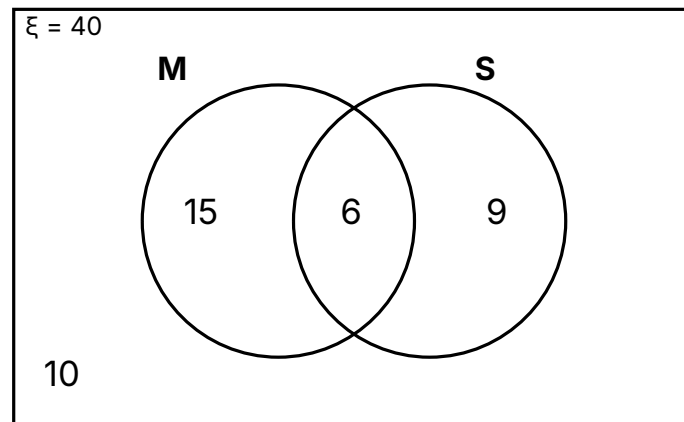
Answer _____

Q8

Grade 6

AQA style

The Venn diagram shows the number of students in the Maths club (M) and Science club (S).
Find $n((M \cap S)')$.



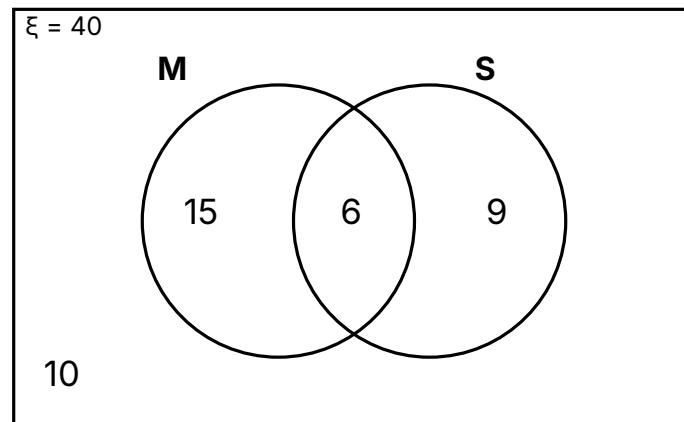
Answer _____

Q9

Grade 6

AQA style

The Venn diagram shows the number of students in the Maths club (M) and Science club (S). A student is selected at random. Find the probability that they are in the Science club.



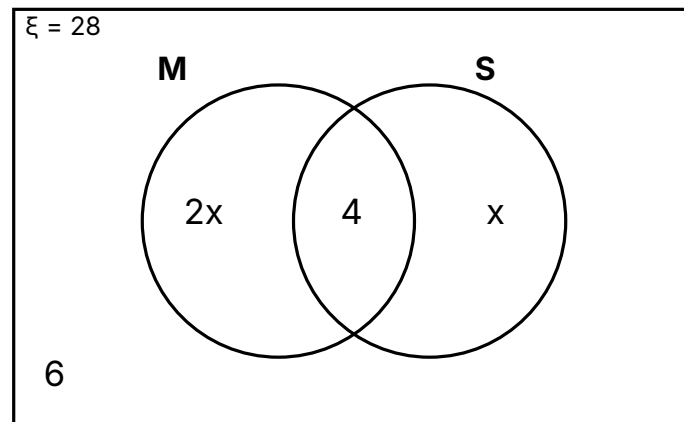
Answer _____

Q10

Grade 7

AQA style

The Venn diagram shows information about 28 students, with some regions given in terms of x . Find the value of x .



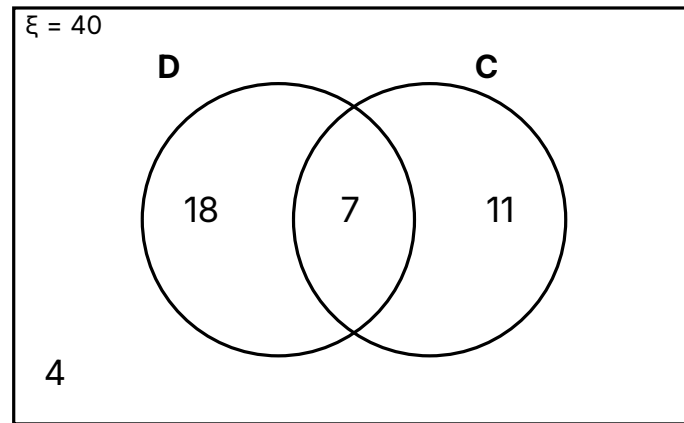
Answer _____

OCR-style questions**Q11** 

Grade 5

OCR style

The Venn diagram shows the number of people who own a dog (D) and a cat (C). How many people own only a cat?



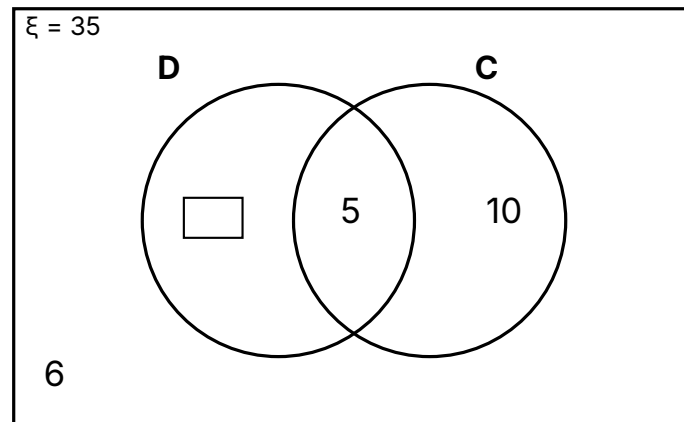
Answer _____

Q12

Grade 6

OCR style

The Venn diagram shows information about 35 people and their pets. Find the missing value.



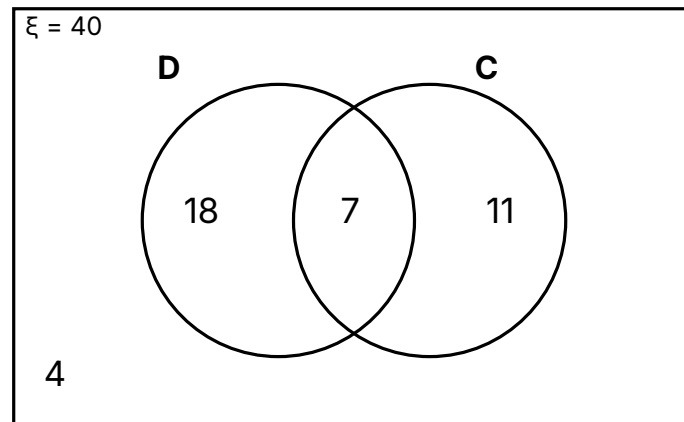
Answer _____

Q13

Grade 6

OCR style

The Venn diagram shows the number of people who own a dog (D) and a cat (C). Find $n(D \cap C')$.



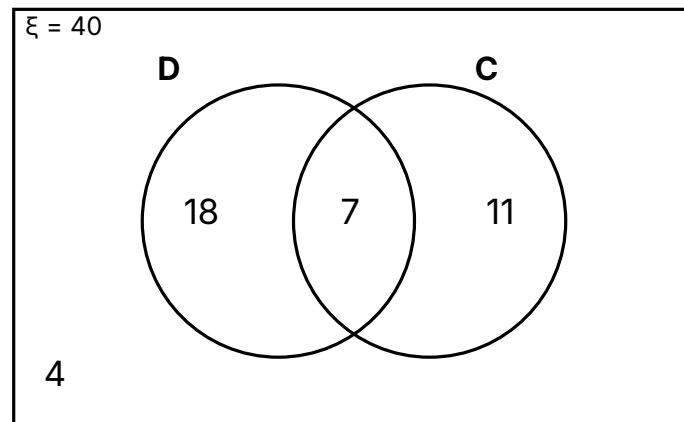
Answer _____

Q14

Grade 6

OCR style

The Venn diagram shows the number of people who own a dog (D) and a cat (C). A person is selected at random. Find the probability that they own both a dog and a cat.



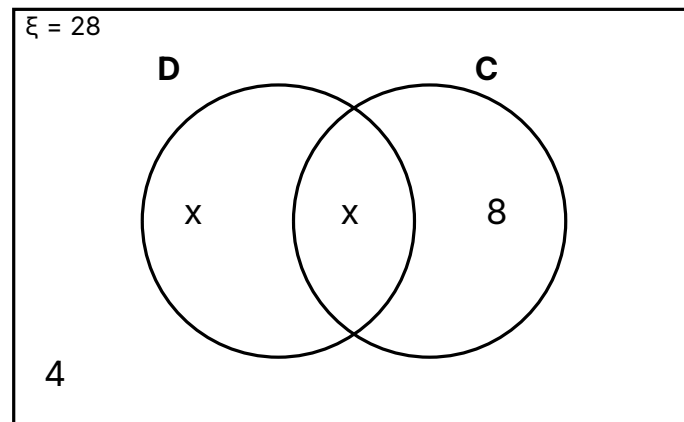
Answer _____

Q15

Grade 7

OCR style

The Venn diagram shows information about 28 people, with some regions given in terms of x . Find the value of x .



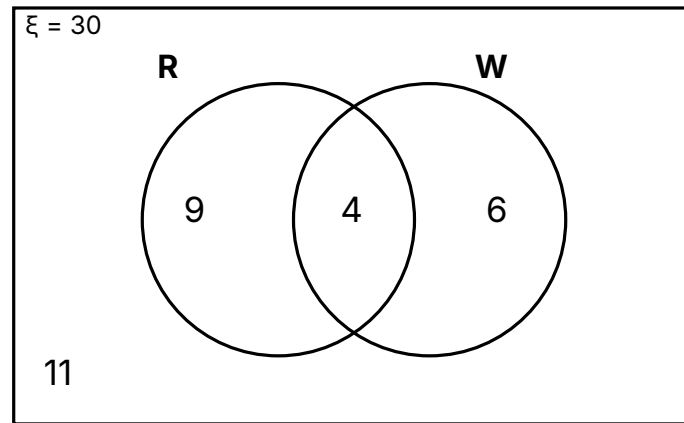
Answer _____

Teachably-style questions**Q16** 

Grade 5

Teachably style

The Venn diagram shows the number of people who enjoy reading (R) and writing (W). How many people enjoy neither reading nor writing?



Answer _____

teachably

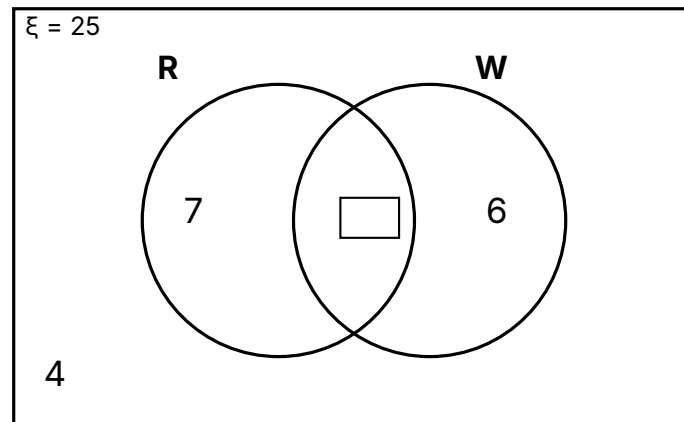
[1 mark]

Q17

Grade 6

Teachably style

The Venn diagram shows information about 25 people and their hobbies. Find the missing value.



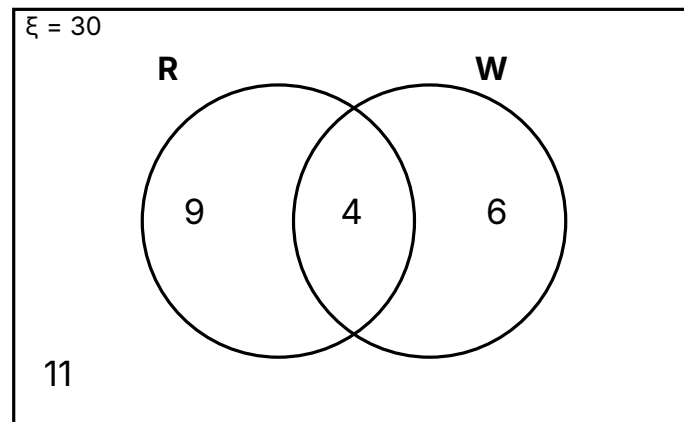
Answer _____

Q18

Grade 6

Teachably style

The Venn diagram shows the number of people who enjoy reading (R) and writing (W). Find $n((R \cup W)')$.



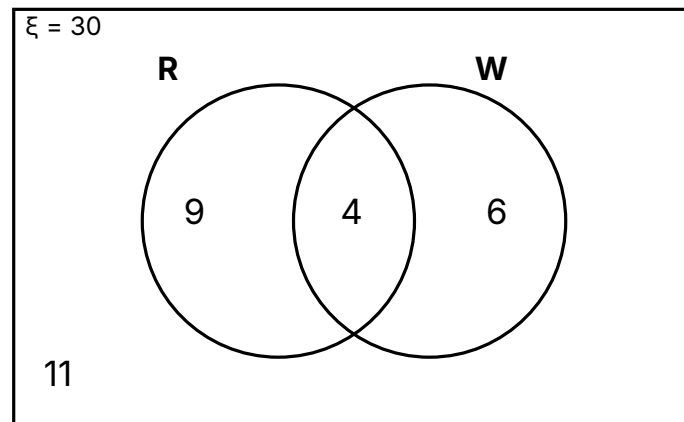
Answer _____

Q19

Grade 6

Teachably style

The Venn diagram shows the number of people who enjoy reading (R) and writing (W). A person is selected at random. Find the probability that they enjoy exactly one of reading or writing.



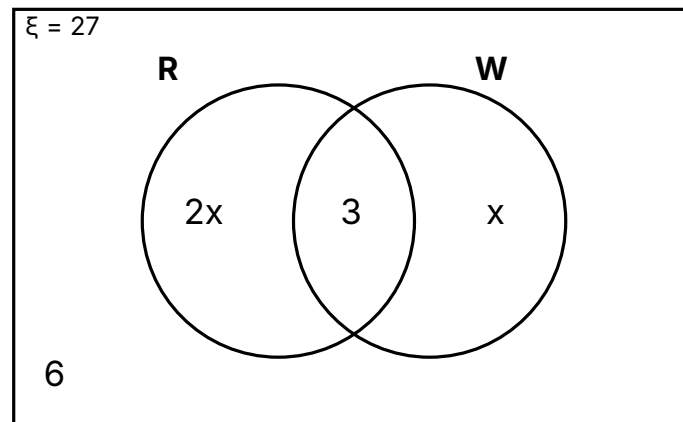
Answer _____

Q20

Grade 7

Teachably style

The Venn diagram shows information about 27 people, with some regions given in terms of x . Find the value of x .



Answer _____

teachably

[2 marks]

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