Mathematics: Venn Diagrams

Using Venn Diagrams to Sort Data

Key Points

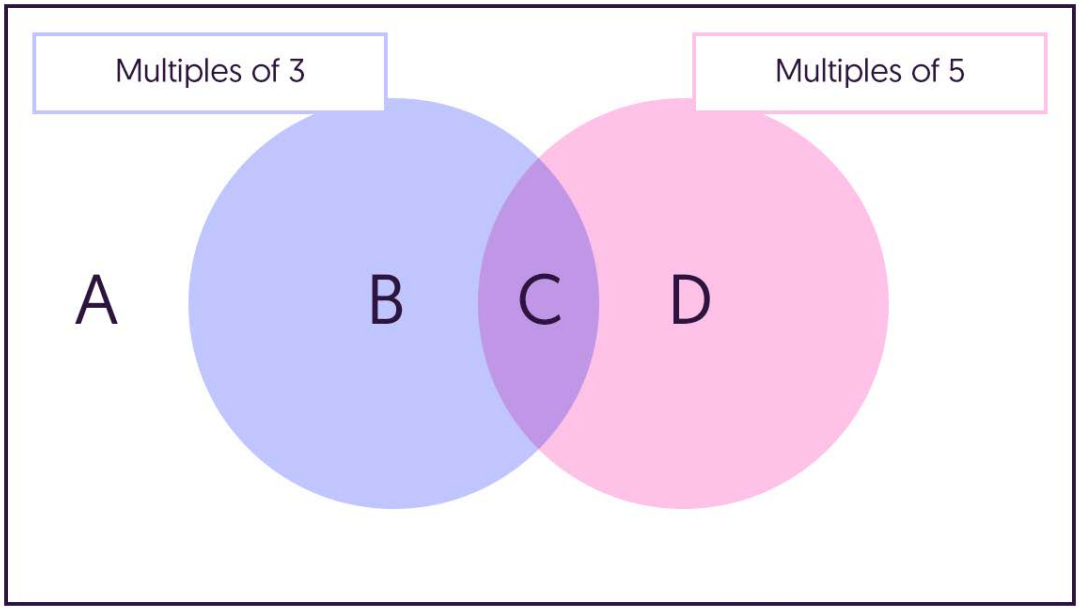
Curly brackets show a set of values.

Given values are a 'member of' or an 'element of' a set.

ε means 'the universal set' which is made up of all of the elements involved in the question.

The integers 1–30 are sorted into the Venn diagram below.

ε = {1, 2, 3, 4...30}



1. In which section would 18 be placed in the Venn diagram?

2. In which section would 15 be placed in the Venn diagram?

3. What do the elements in the section marked **A** have in common?

4. Which numbers appear in the section marked **C**?

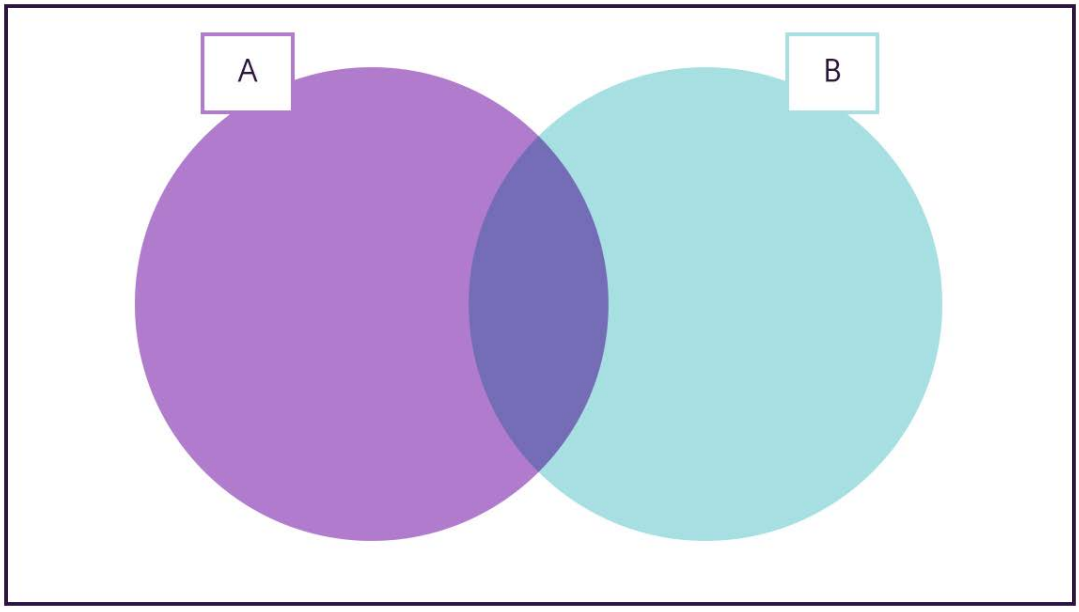
5. In which section would the number 40 be placed?

6. Complete the Venn diagram below with the following information:

   ε = {1, 2, 3, 4...20}

   A = {Odd numbers}

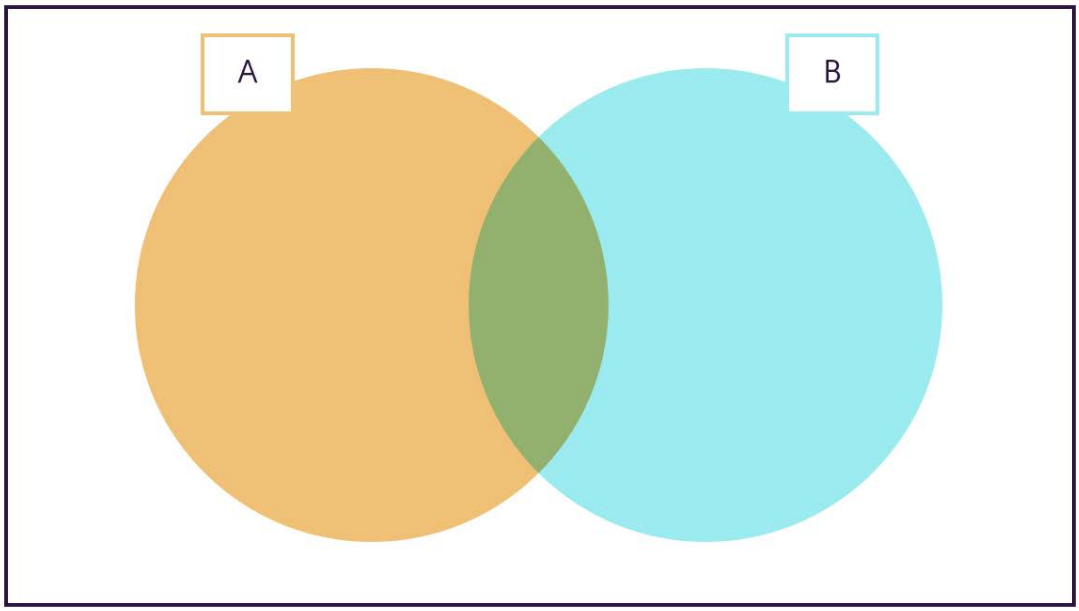
   B = {prime numbers}



7. Given that
   ε = {1, 2, 3, 4...15} and x = {2, 6, 7, 11,12}
   Write out the complement of x.

8. Fully describe the following set:
   A = {12, 16, 20, 24}

9. A set of 50 people were asked if they liked a certain type of drink.
   A = {Hot tea}
   B = {Ice tea}
   30 people like ice tea and 12 people like hot tea.
   10 people do not like tea.
   Complete the Venn diagram below showing the number of people in each section.



10. A Venn diagram shows people who like certain colours.
    A = {Like red}
    B = {Like blue}
    10 like red, 9 like blue, 7 like both red and blue and 3 like neither.
    How many people were asked?