Mathematics: Venn Diagrams
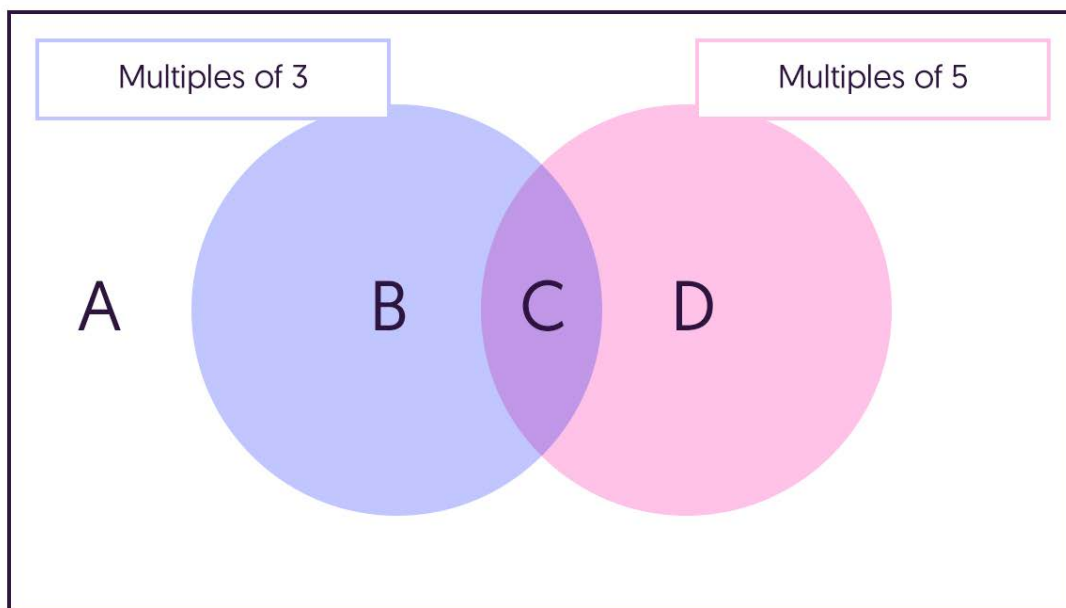
Using Venn Diagrams to Sort Data | Answers

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?

    B

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

    C

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

    Integers between 1 and 30 inclusive which are neither multiples of 3 nor 5.

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

    15 and 30

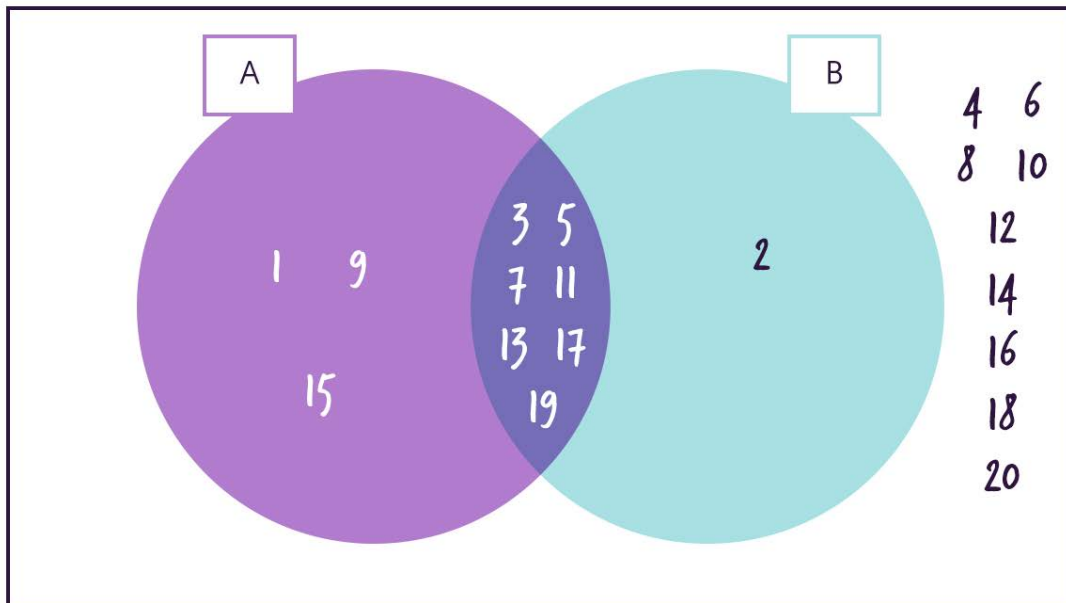5. In which section would the number 40 be placed?

None of the sections as it is not in the universal set

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.

X' = {1, 3, 4, 5, 8, 9, 10, 13, 14, 15}

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

Integers which are multiples of 4 between 12 and 24 inclusive.

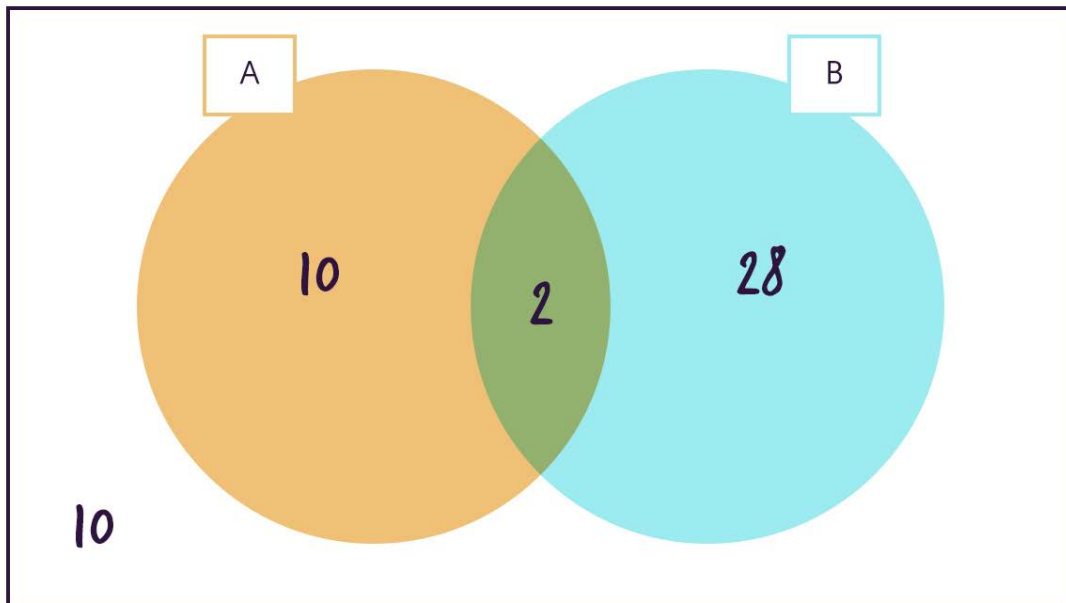9. A set of 50 people were asked if they liked a certain type of drink.
A = {Hot tea}
B = {Ice tea}
30 people like ice tea and 12 people like hot tea.
10 people do not like tea.

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?

    15 people