1. Six persons A, B, C, D, E, and F are sitting in a circle. B is sitting between F and C. A is sitting between E and D. F is sitting to the left of D. Who is sitting between A and F?
2. Pointing to a man, a woman said, 'His mother is the only daughter of my mother.' How is the woman related to the man?
3. Find the missing number in the series: 138, 142, 146, 150, ?, 142, 138.

1. Seating Arrangement:

- Question:
  - "Five friends - P, Q, R, S, and T - are sitting in a row facing north. S is sitting immediately to the left of R. P is sitting to the immediate right of T. Q is sitting between T and S. Who is sitting in the middle of the row?"
- How to approach:
  - Draw a simple line to represent the row.
  - Place the friends according to the given clues.
  - Deduce the position of the remaining friend.

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2. Blood Relations:

- Question:
  - "A is the brother of B. C is the mother of A. D is the father of C. How is B related to D?"
- How to approach:
  - Draw a family tree diagram.
  - Connect the individuals based on the given relationships.
  - Determine the relationship between B and D.

3. Logical Reasoning (Syllogisms):

- Question:
  - "Statements: Some books are pens. All pens are pencils. Conclusions: I. Some books are pencils. II. No book is a pencil. Which of the conclusions logically follows?"
- How to approach:
  - Use Venn diagrams to represent the statements.
  - Analyze the diagrams to check if the conclusions are valid.

4. Direction Sense:

- Question:
  - "A man walks 5 kilometres towards the east, then turns right and walks 3 kilometres. He then turns left and walks 2 kilometres. Finally, he turns right and walks 1 kilometre. How far is he from his starting point?"

- How to approach:
    - Draw a diagram representing the man's movements.
    - Use the Pythagorean theorem if necessary to calculate the distance.

5. Number/Letter Series:

- Question:
    - "What is the next number in the series: 2, 6, 12, 20, ?"
- How to approach:
    - Identify the pattern between the numbers. (In this case, the difference between consecutive numbers increases by 2 each time.)

6. Code-Based Reasoning:

- Question:
    - "If 'TABLE' is coded as 'UBAMD', how is 'CHAIR' coded?"
- How to Approach:
    - Identify the pattern in the code. (In this case, each letter is shifted one position forward in the alphabet.)
    - Apply the same pattern to 'CHAIR'.

7. Logical Deduction:

- Question:
    - "All roses are flowers. Some flowers are red. Therefore, which of the following conclusions is true?
      (a) All roses are red.
      (b) Some roses are red.
      (c) Some red things are flowers.
      (d) No rose is red."
- How to Approach:
    - Use Venn diagrams or logical reasoning to analyze the statements.
    - Determine which conclusion logically follows from the given information.

8. Ranking and Ordering:

- Question:
    - "In a class, Rohan is ranked 7th from the top and 26th from the bottom. How many students are there in the class?"
- How to Approach:
    - Use the formula: Total = (Top Rank + Bottom Rank) - 1.

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9. Pattern Recognition (Figures):

- Question:
  - (Imagine a series of figures with a changing pattern, such as rotating shapes or increasing/decreasing elements.)
  - "Identify the next figure in the given series."
- How to Approach:
  - Carefully analyze the changes in each figure.
  - Identify the pattern and apply it to find the next figure.

10. Age-Related Problems:

- Question:
  - "The age of a father is twice the age of his son. Ten years ago, the father's age was three times the son's age. What is the present age of the father?"
- How to Approach:
  - Set up equations based on the given information.
  - Solve the equations to find the ages.

11. Odd One Out:

- Question:
  - "Choose the odd one out:
    (a) Apple
    (b) Banana
    (c) Carrot
    (d) Orange"
- How to Approach:
  - Determine the common characteristic of most of the items and which item does not share that characteristic. In this case, the carrot is the only vegetable.

12. Data Sufficiency:

- Question:
  - "Is X greater than Y?
    - Statement I: X + Y > 10
    - Statement II: X - Y > 2
    - (a) Statement I alone is sufficient.
    - (b) Statement II alone is sufficient.
    - (c) Both statements together are sufficient.
    - (d) Neither statement [1] alone nor both together are sufficient."
- How to Approach:
  - Analyze each statement independently and then together to determine if they provide enough information to answer the question.

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13. Logical Puzzles:

- Question:
  - "There are four friends: A, B, C, and D. Each has a different profession: doctor, engineer, teacher, and lawyer. A is not a lawyer. B is a doctor. C is not a teacher. D is not an engineer. Which profession does A have?"
- How to Approach:
  - Use a table or grid to track the information and eliminate possibilities.
  - Deduce the professions of each person based on the given clues.

14. Ordering and Sequencing:

- Question:
  - "Five books, P, Q, R, S, and T, are placed on a shelf. P is placed above Q. R is placed below S. T is placed above P. Q is placed below R. Which book is at the bottom of the shelf?"
- How to Approach:
  - Write down the relationships between the books.
  - Arrange them in the correct order to determine the bottom book.

15. Cause and Effect:

- Question:
  - "Statement: The price of petrol has increased.
    Which of the following is a possible effect?
    (a) Increased use of public transportation.
    (b) Decreased sales of cars.
    (c) Increased inflation.
    (d) All of the above."
- How to Approach:
  - Analyze the statement and consider the logical consequences.

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16. Symbol-Based Reasoning:

- Question:
  - "If '+' means '-', '-' means 'x', 'x' means '÷', and '÷' means '+', then what is the value of 16 x 4 + 2 - 1 ÷ 3?"
- How to Approach:
  - Substitute the symbols with their corresponding operations.
  - Solve the expression using the order of operations (PEMDAS/BODMAS).

17. Choosing the Strongest Argument:

- Question:

    - "Should all schools introduce uniforms?
        - Argument I: Yes, uniforms promote discipline.
        - Argument II: No, uniforms restrict individual expression.
        - Which argument is stronger?"
- How to Approach:
    - Evaluate the arguments based on their relevance, logic, and strength.

18. Complex Seating Arrangement:

- Question:
    - "Eight people – A, B, C, D, E, F, G, and H – are sitting around a circular table facing the centre. A sits third to the right of H. B sits second to the left of A. C sits opposite to A. D is not an immediate neighbour of A. E sits between H and B. F sits second to the right of G. Who sits to the immediate left of D?"
- How to Approach:
    - Draw a circle and mark the positions.
    - Start placing the people according to the given clues, one by one.
    - Pay close attention to "left," "right," and "opposite" directions.

19. Conditional Logic:

- Question:
    - "If it rains, then the match will be cancelled. If the match is cancelled, then the students will be happy. The match was not cancelled. What can be concluded?"
- How to Approach:
    - Understand the conditional statements (if-then).
    - Apply the rules of logical deduction.
    - Determine what conclusions can be drawn from the given information.

20. Quantitative Reasoning (with Logic):

- Question:
    - "A box contains red, blue, and green balls. The number of red balls is twice the number of blue balls. The number of green balls is half the number of red balls. If there are 18 balls in total, how many red balls are there?"
- How to Approach:
    - Set up equations based on the given relationships.
    - Solve the equations to find the number of red balls.

21. Pattern Completion (Visual):

- Question:
    - (Imagine a grid with a missing element, where the elements follow a specific pattern in terms of shape, colour, or orientation.)

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    - "Choose the figure that completes the pattern."
- How to Approach:
    - Carefully analyze the existing pattern.
    - Identify the rules governing the changes.
    - Select the figure that logically completes the sequence.

22. Statement and Assumption:

- Question:
    - "Statement: 'Buy X brand shoes; they are durable and stylish.'
    - Assumption:
      (a) Only durable shoes should be purchased.
      (b) Style is an important factor in purchasing shoes.
      (c) X brand shoes are the only stylish shoes.
      (d) All shoes are not durable.
    - Which assumption is implicit in the statement?"
- How to Approach:
    - An assumption is an unstated belief that is necessary for the statement to be true.
    - Determine which of the given assumptions must be true for the provided statement to be true.

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23. Complex Logical Deduction

- Question:
    - "There are 4 friends, and each has a different hobby. The hobbies are reading, painting, singing and dancing. 1. Amit does not like reading or painting. 2. Ben does not like singing or reading. 3. Chris does not like dancing or painting. 4. Dan does not like singing or painting. Who likes which hobby?"
- How to Approach:
    - Create a table, with names on one axis, and hobbies on the other. Use X's and checkmarks to eliminate and confirm hobbies.