Chapter 1: We the Travellers - I

1. **Which of the following CAN be implied if the given statement is true?**
   Statement: A 5-digit number is formed using single-digit whole numbers such that the units digit is even and all the remaining digits are odd.
   a) The number definitely lies between 11111 and 99999
   b) The number formed CAN be a multiple of 100
   c) The sum of the digits of the largest such number is 44
   d) The sum of the digits is NOT divisible by 2

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2. **Rohan revealed his 5-digit phone password in a code word to Rajesh where all the digits are NATURAL NUMBERS. Which of the following statements are <u>SUFFICIENT</u> to crack the code?**
   Statement 1: One of these digits is 1, and 2 appears thrice in the password
   Statement 2: The first digit is smaller than all other digits and the 2nd digit is smaller than the 3rd
   Statement 3: The largest digit in the password is 3 and it appears only once
   a) Statements 1 and 2
   b) Statements 2 and 3
   c) All the statements are required
   d) Cannot be determined even after using all the statements

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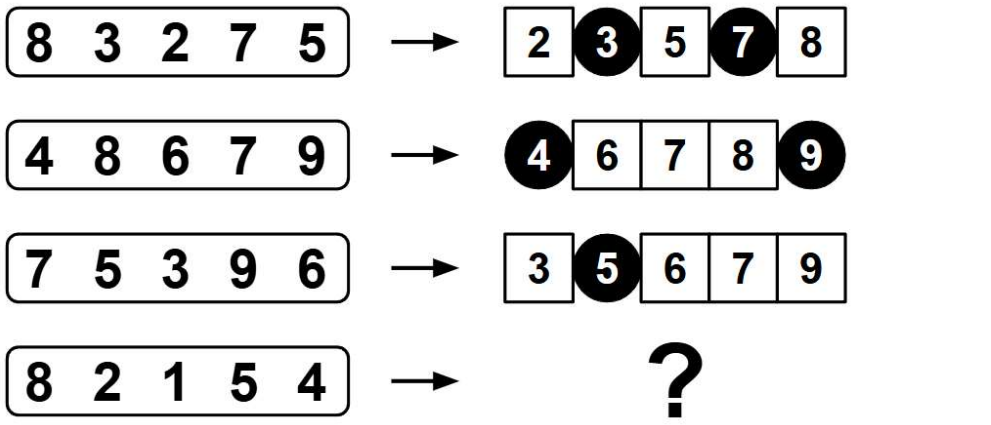
3. **What will come in place of "?"**



a) 1 2 4 5 8
b) 1 2 4 5 8
c) 1 2 4 5 8
d) 1 2 4 5 8

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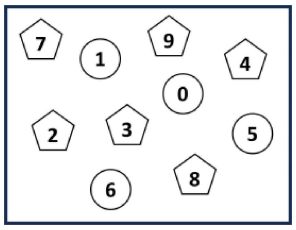
4. **A 5-digit number is formed such that all the digits are different and the sum of all the digits is 10. What is the highest digit this number can have?**
   a) 3 b) 4 c) 5 d) 6

5. **Using the instructions given below, form two numbers.**
Instruction 1: Form the largest 5-digit number using the digits in the 5-sided figures, without repeating any digit.
Instruction 2: Form the smallest 3-digit number using the digits in the circles, without repeating any digit.
What is the sum of the two numbers formed?



a) 99394 b) 93394 c) 98743 d) 98848

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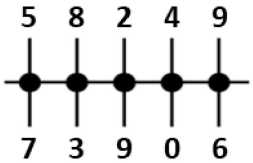
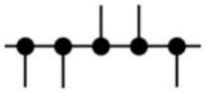
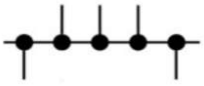
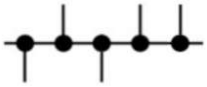
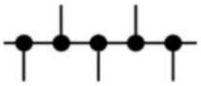
6. **Using the digits at the ends of the vertical lines, form numbers by reading the digits from left to right without rearranging them. Which option represents the greatest even number that can be formed?**



a)  b)  c)  d) 

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7. **A string of digits is given below. At MINIMUM, how many pairs of digits (may or may not be adjacent to each other) must be interchanged such that the second largest 5-digit number is formed from left to right?**
Note: *A digit can change its position any number of times*

Left **0 7 3 6 5** Right

a) 2 b) 3 c) 4 d) 5

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8. **There is a 7-digit number X in which all the digits are different. Using the digits of X, two 5-digit numbers Y and Z are formed, such that no digit is repeated within Y or within Z. What is the MINIMUM number of digits that Y and Z must have in common?**

a) 1 b) 2 c) 3 d) 4

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9. **A 5-digit number has the property that the number formed by its first three digits is the same as the number formed by its last three digits (without changing the order of digits). What is the minimum number of times any digit can appear in this number?**

a) 3 b) 1 c) 2 d) 5

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10. **Which digit appears in the tens place of the second largest 5-digit number formed using 1, 5, and 7, where each digit is used at least once?**

a) 5 b) 7 c) 1 d) Either a or c

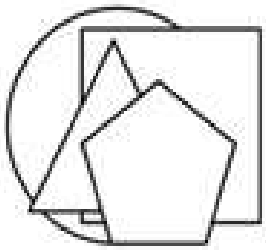
The Thinking Spot

P, Q, R, and S each has a different shape - Circle, Pentagon, Square, and Triangle (not necessarily in the same order). They arranged the shapes as shown below, where the Circle is placed at the bottom-most position.

• S placed his shape immediately above P's shape

• There are exactly 2 shapes placed above R's shape

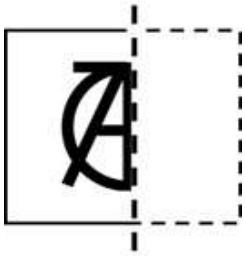
Which of the following is Q's shape?



(a) Circle (b) Square (c) Pentagon (d) Triangle

Chapter 10: Symmetrical Designs

1. **A transparent symmetrical sheet of paper has letters written on it and is folded in half. Which of the following letters given in the options is NOT present if the given sheet is unfolded?**



a) N b) T c) A d) O

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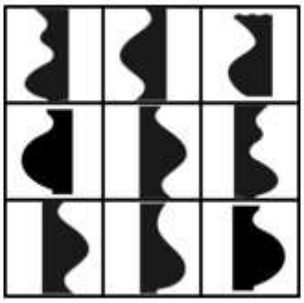
2. **Some symmetrical figures are cut into two halves and placed in the grid below. Which of the following options has only one half present in the grid?**



a)  b)  c)  d) 

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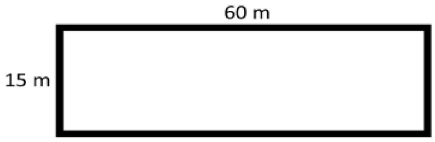
3. **At least how many times should the given paper sheet be folded in half to make a square?**



a) 0 b) 1 c) 2 d) 3

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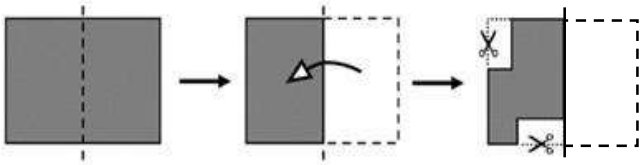
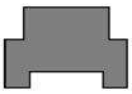
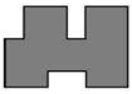
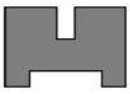
4. **A sheet of paper is folded in half and after folding, some part is cut as shown in the image below. Now the sheet is unfolded. Choose the option which represents the piece after unfolding.**



a)  b)  c)  d) 

5. **Along how many different lines can a circular sheet be folded into half?**

a) 1 b) 2 c) 100 d) More than 100

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6. **A symmetrical paper sheet is in the form of a polygon. It is cut into halves so that each half forms a polygon of 5 sides. How many sides were possibly there in the original paper sheet?**

a) 6 b) 7 c) 8 d) All of these

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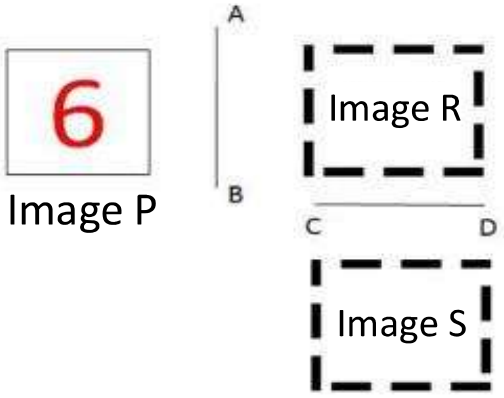
7. **The given Image P is first reflected along the line AB to obtain Image R. Then, Image R is reflected along the line CD to obtain Image S. Which of the following options is the same as Image S?**



a) 

b) 

c) 

d) 

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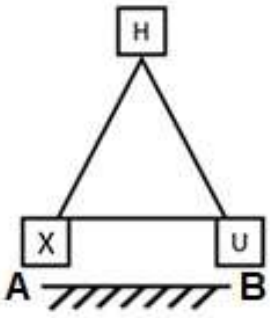
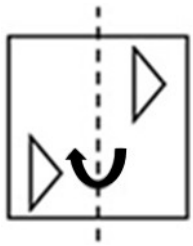
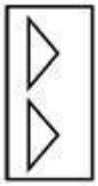
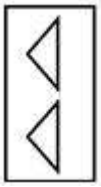
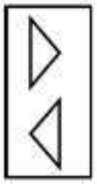
8. **Which of the following pairs of letters will have the same image if they are reflected in a mirror placed along the line AB?**



a) H and U b) X and U c) H and X d) All of the above

9. **A transparent sheet of paper of the given shape is folded along the dotted line in the direction as shown by the arrow. What will the folded sheet look like?**
Note: *You cannot rotate the question or option images*



a) 
b) 
c) 
d) 

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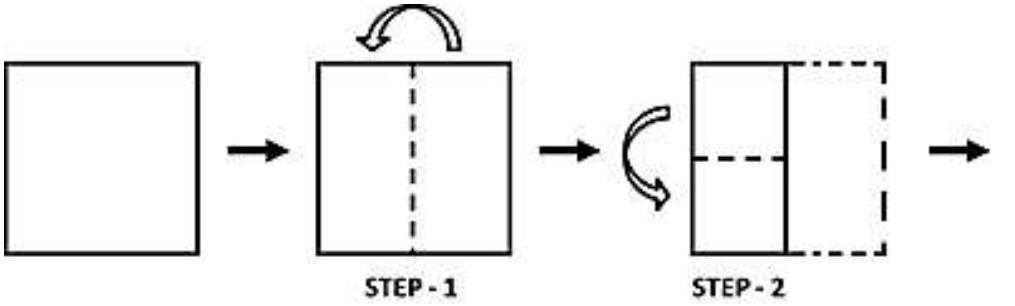
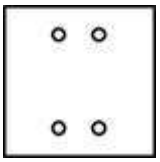
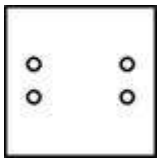
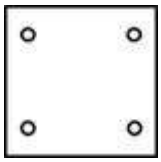
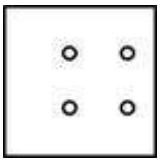
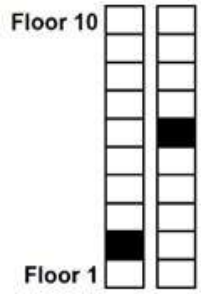
10. **A sheet of paper is folded along the dotted line in steps 1 and 2, as shown in the image below. After this, a hole is made, as shown in step 3. How will the paper look after it is unfolded?**



a) 
b) 
c) 
d) 

The Thinking Spot

Given below is a 10-storey building with 2 elevators, with their current positions highlighted in black. If the buttons for both elevators are pressed simultaneously on floor 1, and both elevators travel at the same speed to the topmost floor and return to the 1st floor without stopping, on which floor will they meet?



(a) Floor 7 (b) Floor 8 (c) Floor 9 (d) Floor 10