



# MATHS

## BOOKS - HT Olympiad Previous Year Paper

### LOGICAL REASONING

#### Verbal Reasoning

1. Which of the following will be the middle digit of the lowest number formed after the

digits in each number is arranged in descending order ?

642 379 894 546 795

A. 1

B. 2

C. 4

D. 7

**Answer: C**



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2. Which of the following set of letters will complete the given letter series ?

WEB TGD QHG ?

A. NIJ

B. NIK

C. NJK

D. PJK

**Answer: C**



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3. In a joint family, there are father, mother, 4 married sons and three unmarried daughters. Out of the sons, two have 2 daughters each, and two have a son and a daughter each. How many female members are there in the family?

A. 15

B. 12

C. 14

D. 11

**Answer: C**



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4. In a certain code language, PROBLEM is written as OQNAKDL. How is FLOWERS be written in that code language ?

A. EMNVFQR

B. ELMYFQS

C. EKMXFQR

D. EKNVDQR

**Answer: D**



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5. In each of the following questions, arrange the given words in the sequence in which they occur in the dictionary and then choose the correct sequence.

1. Protein 2. Problem 3. Proverb 4. Property 5.

Project

A. 1,2,3,4,5

B. 2,1,4,3,5

C. 2,5,4,1,3

D. 3,2,5,2,1

**Answer: C**



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6. If English alphabets are written in reverse order, then what will be seventh letter on the right of the 12<sup>th</sup> letter from the left end ?

A. F

B. G

C. H

D. S

**Answer: C**



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7. Find the missing number, if same rule is followed either row-wise or column-wise.



14	19	30
21	31	49
32	35	?

A. 67

B. 64

C. 54

D. 59

**Answer: B**



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8. If husband is called wife, wife is called grandfather , grandfather is called grandmother, grandmother is called maternal grandmother, maternal grandmother is called maternal grandfather, maternal grandfather is called maternal uncle and maternal uncle is called maternal aunt, then what will the father of the mother be called ?

A. Maternal grandfather

B. Maternal uncle

C. Maternal grandmother

D. Maternal aunt

**Answer: B**



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**9.** In a class of 35 students, Kalika is placed 7<sup>th</sup> from the bottom whereas Anukur is placed 9<sup>th</sup> from the top. Seema is placed exactly in

between Kalika and Ankur. What is Kalika's position from Seema?

A.  $9^{th}$

B.  $10^{th}$

C.  $11^{th}$

D.  $13^{th}$

**Answer: B**



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**10.** A,B,C,D,E,F and G are sitting in a row facing North.

(i) F is to the immediate left of G.

(ii) E is 4<sup>th</sup> to the right of G.

(iii) C is the neighbour of B and D

(iv) Person who is third to the left of D is at one of the ends.

Who are the neighbours of B ?

A. C and D

B. C and G

C. G and F

D. C and E

**Answer: D**



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**11.** Some letters are given which are numbered 1,2,3,4,5 and 6. Find the combination of numbers from the options so that the letters are arranged accordingly to form a meaningful word.

*R X E T P E*

1 2 3 4 5 6

A. 2,3,5,4,1,6

B. 2,3,6,5,1,4

C. 3,2,5,6,1,4

D. 3,1,5,4,2,6

**Answer: C**



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**12.** Pointing to a lady , Avnika said, "She is the mother-in-law of the husband of my mother".

How is that lady related to Avnika ?

A. Grandmother

B. Aunt

C. Maternal grandmother

D. Sister

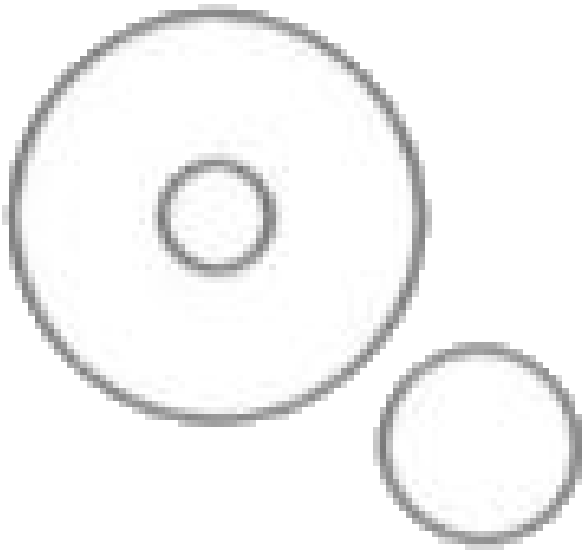
**Answer: C**



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**13.** Which of the following elements satisfies the Venn diagram given below ?





A. Judge, Thief, Criminal

B. Father, Mother, Parents

C. Teacher, College, Student

D. Polygons, Rectangles, Squares

**Answer: A**



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14. If 'P' denotes '-', 'Q' denotes  $\times$ , 'R' denotes  $\div$  and 'S' denotes  $+$ , then find the value of  $125 \text{ Q } 32 \text{ R } 8 \text{ P } 100 \text{ S } 160$ .

A. 500

B. 600

C. 480

D. 560

**Answer: D**



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**15.** Rohit walked 25 m towards South. Then he turned to his left and walked 20 m. He then turned to his left and walked 25 m. He again turned to his right and walked 15 m. At what distance is he from his starting point and in which direction?

- A. 35 metres, East
- B. 35 metres, North
- C. 40 metres, East

D. 60 metres, East

**Answer: A**

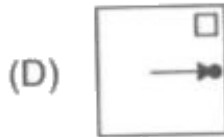
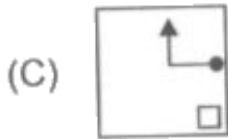
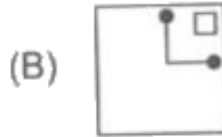
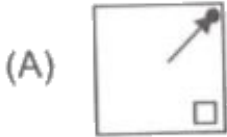
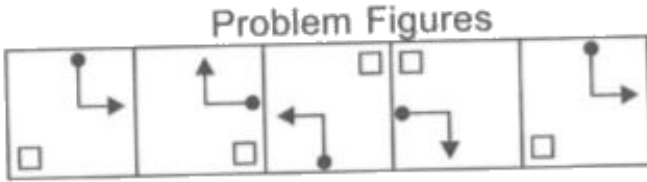


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## Non Verbal Reasoning

1. Select a figure from the options which will continue the same series as established by the

# Problem Figures.



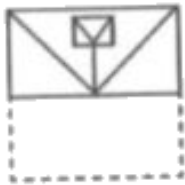
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2. A square transparent sheet, with a pattern and a dotted line on it is shown here. Select a figure from the options as to how the pattern

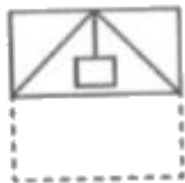
would appear when the transparent sheet is folded along the dotted line.



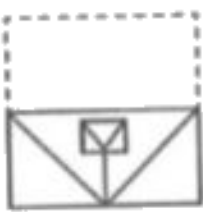
A.



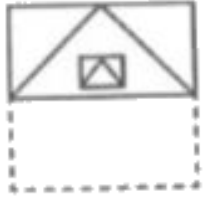
B.



C.



D.

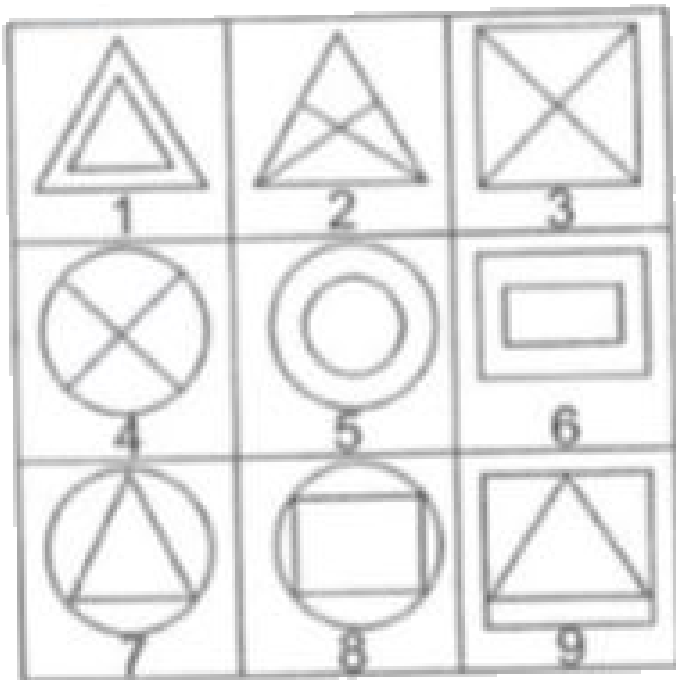


**Answer: A**



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**3.** Group the given figures into three classes using each figure only once.



A. 1,5,6 , 2,3,4 , 7,8,9

B. 1,4,7 , 2,5,8 , 3,6,9

C. 1,2,3 , 4,5,8 , 6,7,9

D. 1,3,5 , 2,4,8 , 6,7,9



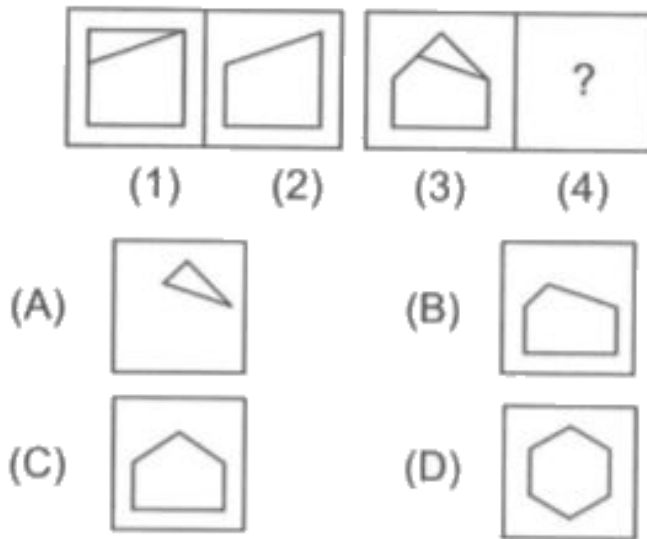
**Answer: A**



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4. There is a certain relationship between figures (1) and (2) . Establish the similar relationship between figures (3) and (4) by selecting a suitable figure from the options

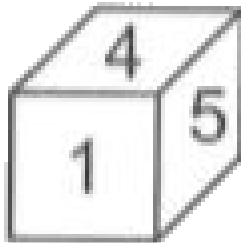
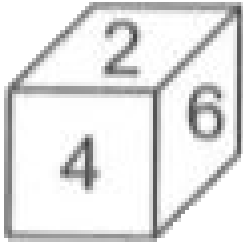
which will replace the '?' in the figure (4) .



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5. Two positions of a dice are shown . Which number will be on the face opposite to the

face having number 6 ?



A. 1

B. 3

C. 6

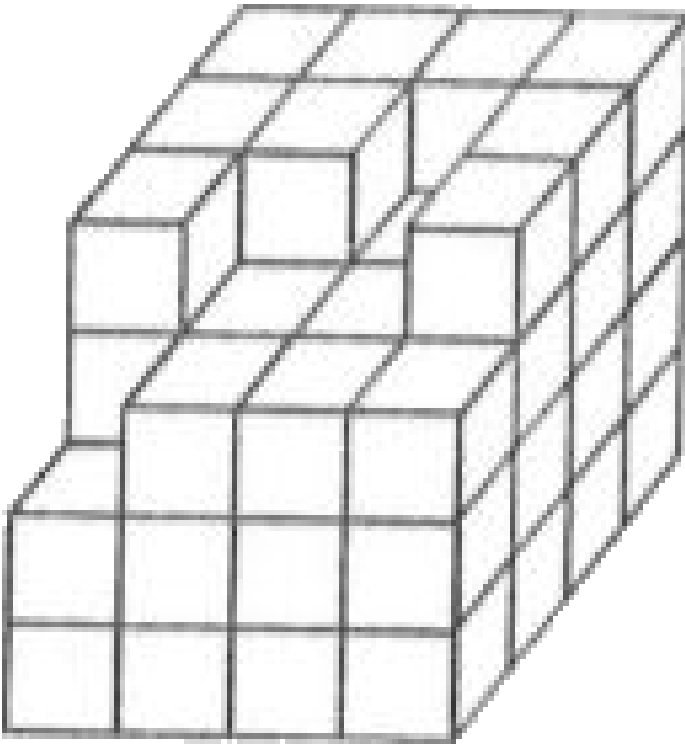
D. 5

**Answer: A**



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6. Count the number of cubes in the given figure.



A. 56

B. 55

C. 54

D. 52

**Answer: A**



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7. Which of the following options will complete the pattern in Fig. (X) ?

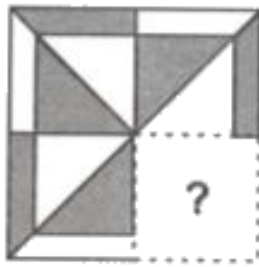
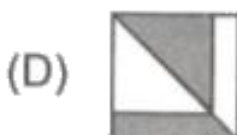


Fig. (X)



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8. Select the correct water image of the given

Fig. (X)



Fig. (X)

A.



B.





C.



D.

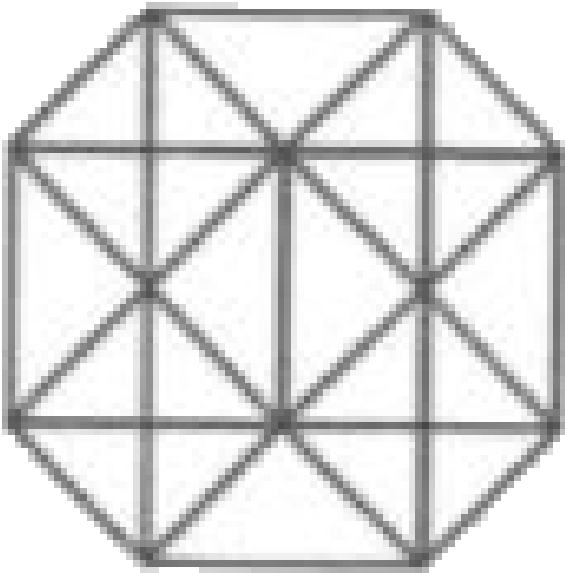
**Answer: C**



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**9.** Find the minimum number of straight lines required to make the given figure.





A. 12

B. 17

C. 15

D. 24

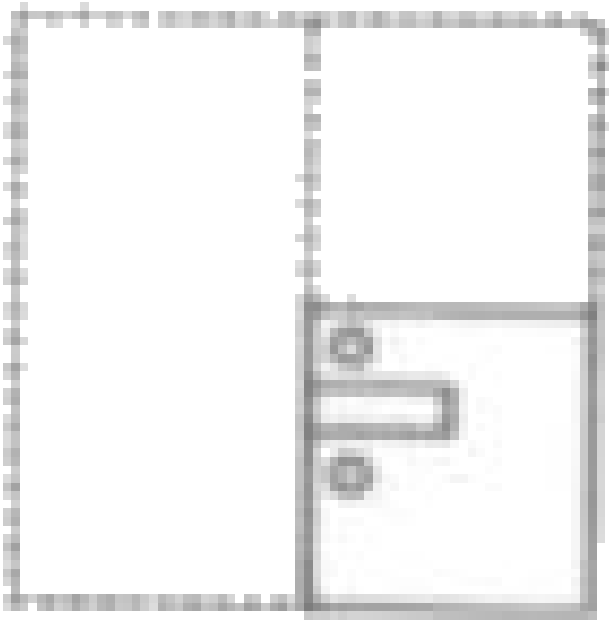
**Answer: B**



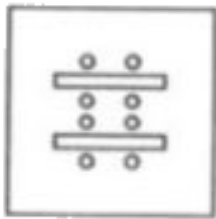
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**10.** A sheet of paper is folded in a particular manner and a punch is made as shown. Select a figure amongst the options that would closely resembles the unfolded form of given

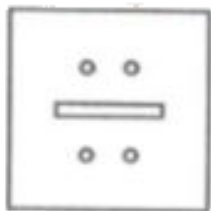
sheet.

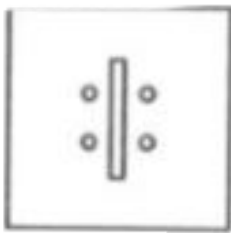


A.



B.





C.



D.

**Answer: A**



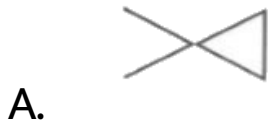
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**11.** Select a figure from the options which is exactly embedded in the given figure as one of

its parts.



Fig. (X)



D.

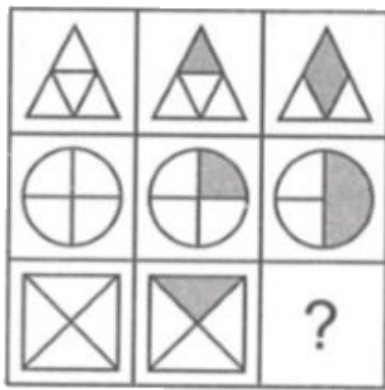


**Answer: D**



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**12.** Which of the following figures will complete the given figure matrix ?



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**13.** Select a figure from the options which satisfies the same condition of placement of

the dots as in Fig. (X).



Fig.(X)

A.



B.





C.



D.



**Answer: C**



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**14.** Select the correct mirror image of the given figure.



A.



B.



C.



D.

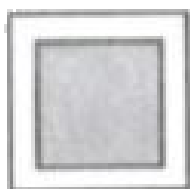
**Answer: A**



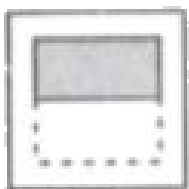
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15. A set of three figures X,Y and Z showing a sequence of folding of a piece of paper. Fig. Z shows the manner in which the folded paper

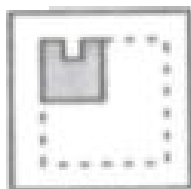
has been cut. Select a figure from the options which would most closely resembles the unfolded form of Fig. Z.



X

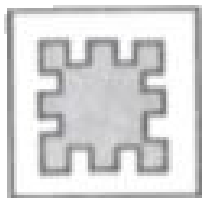


Y

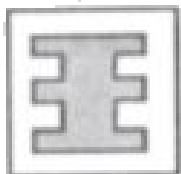


Z

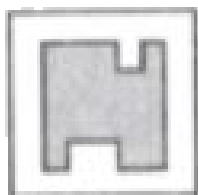
A.

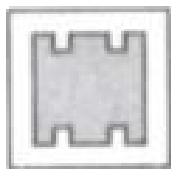


B.



C.





D.

**Answer: D**



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