

# *Bloom Reasoning Olympiad Sample Paper 1*

Maximum Time : 60 Minutes

Maximum Marks : 60

## INSTRUCTIONS

1. There are 50 Multiple Choice Questions in this paper divided into two sections :  
**Section A** 40 MCQs; 1 Mark each  
**Section B** 10 MCQs; 2 Marks each
2. Each question has Four Options out of which **ONLY ONE** is correct.
3. All questions are compulsory.
4. There is no negative marking.
5. No electric device capable of storing and displaying visual information such as calculator and mobile is allowed during the course of the exam.

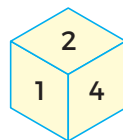
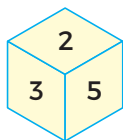
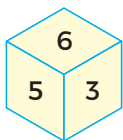
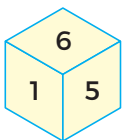
Roll No.

Student's Name

## Section A (1 Mark Questions)

1. In the following question, select the odd word pair from the given alternatives.  
 (a) Oxygen - Gas      (b) Metal - Platinum      (c) Liquid - Water      (d) Solid - Iron
  
2. In the following question, find the odd number/letter/ number pair from the given alternatives.  
 (a) 8110                      (b) 9100                      (c) 1189                      (d) 1234
  
3. If in a certain code, GREEN is written as ITGGP, then how will PINK be written as in the same code?  
 (a) RKPM                      (b) TUMJ                      (c) KLON                      (d) RKQS
  
4. What should come in the place of question mark (?) in the following alpha-numeric series?  
 T49S64, R81Q100, P121O144, ?  
 (a) N169M196                      (b) N160M196  
 (c) N164M194                      (d) U36T46
  
5. If 'K' means 'minus', 'L' means 'divided by', 'M' means 'plus' and 'D' means 'multiplied by', then  
 117 L 3 K 5 M 12 D 8 = ?  
 (a) 150                      (b) 125                      (c) 130                      (d) 145
  
6. P, Q, R, S, T, U are 6 members of a family in which there are two married couples, T, a teacher is married to a doctor who is mother of R and U. Q, the lawyer is married to P. P has one son and one grandson. Of the two married ladies one is a house wife. There is also one student and one male engineer in the family. Which of the following is true about the granddaughter of the family?  
 (a) She is a lawyer                      (b) She is an engineer  
 (c) She is a student                      (d) She is a doctor
  
7. Select the related word/letters from the alternatives given below.  
 $\sqrt{AFI} = M : \sqrt{ADD} = L :: \sqrt{ABA} = ?$   
 (a) N                      (b) K                      (c) I                      (d) O

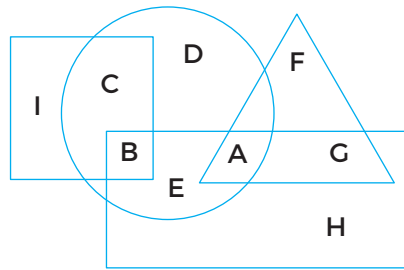
8. Four positions of a dice are given below.



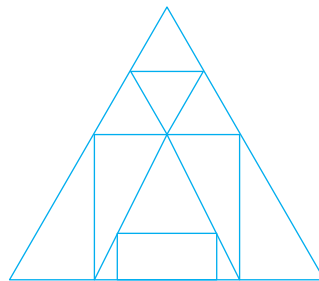
Find the number on the face opposite to the face showing 4.

- (a) 5                      (b) 1                      (c) 6                      (d) 3

9. In the following figure, square represents Painters, triangle represents Women, circle represents Accountants and rectangle represents Americans. Which set of letters represents Americans who are not Accountants?

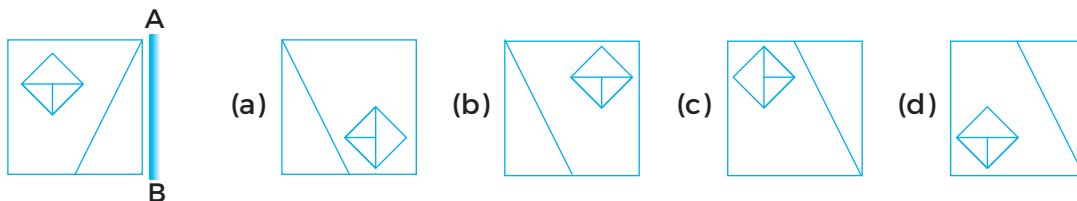


- (a) D, C, H                      (b) G, H                      (c) G, B, E                      (d) D, A
10. What will be next number in the series?  
0, 1, 4, 27, 16, 125, 36, ?
- (a) 343                      (b) 25                      (c) 144                      (d) 72
11. Two cars C and D start from the same point. C travels 9 km South, then turns to its left and travels another 11 km. D travels 3 km East, then turns South and travels 5 km, then turns to its left and travels another 8 km. Where is D with respect to C now?
- (a) 4 km South                      (b) 14 km North  
(c) 4 km North                      (d) 14 km South
12. Find out the number of triangles in the given figure.



- (a) 13                      (b) 15                      (c) 16                      (d) 17
13. Which of the answer figure is exactly the mirror image of the given question figure, when mirror is held on the line AB?

**Question Figure      Answer Figures**



**14.** Two statements are given followed by two conclusions. You have to consider the statements to be true even, if they seem to be at variance from commonly known facts. You have to decide which of the given conclusion if any, follow from the given statements.

**Statements** Some birds are clouds.

All Horse is a bird.

**Conclusions** I. Some clouds are birds.

II. Horse is not a cloud.

(a) Only I follows

(b) Only II follows

(c) Both I and II follow

(d) Neither I nor II follows

**15.** A group of friends are sitting in an arrangement one each at the corner of an octagon. All are facing the centre. Mahima is sitting diagonally opposite to Rama, who is on Sushma's right. Ravi is next to Sushma and opposite to Girdhar, who is on Chandra's left. Savitri is not on Mahima's right but opposite to Shalini. Who is on Shalini's right?

(a) Ravi

(b) Mahima

(c) Girdhar

(d) Rama

**16.** A family consists of a man, his wife, his three sons, their wives and three children in each son's family. How many members are there in the family?

(a) 12

(b) 13

(c) 15

(d) 17

**17.** If '÷' denotes 'Multiplied by', '+' denotes 'subtracted from', '-' denotes 'added to' and '×' denotes 'divided by', then which of the following equation is true?

(A)  $16 + 19 \times 21 - 5 = 201$

(B)  $5 \times 6 + 4 \div 3 = 37 / 6$

(C)  $6 \times 3 + 12 \div 3 = 21$

(D)  $18 \times 6 \div 8 - 12 = 36$

(a) D

(b) C

(c) B

(d) A

**18.** In a certain code language, 'PEN-TAN' is written as '0'. How is 'DEN-COB' written in that code language?

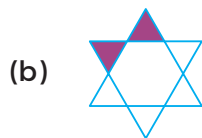
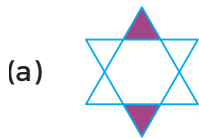
(a) 8

(b) 3

(c) 9

(d) 7

**19.** Find the odd one out.



**20.** In a row of girls, Veena is 12th from the start and 19th from the end. In another row of girls, Sunita is 14th from the start and 20th from the end. How many girls are there in both the rows together?

(a) 72

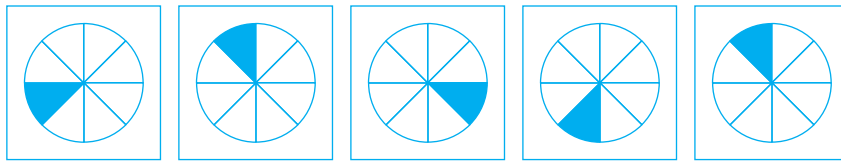
(b) 65

(c) 63

(d) 61

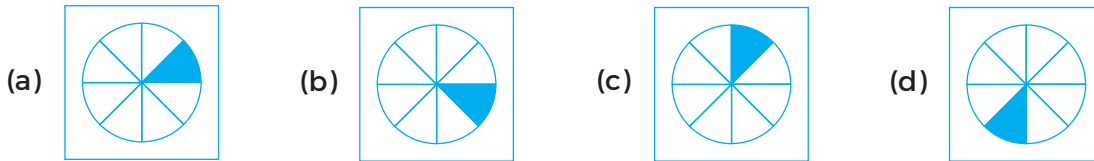
21. Select the figure that will come next in the following figure series.

**Question Figures**



(a) (b) (c) (d) (e)

**Answer Figures**



(a) (b) (c) (d)

22. A, B, C and D are four buildings in a residential complex. Each has different heights. A is only higher than D, B is shorter than C but higher than A. Which of the following buildings is the highest?

- (a) D (b) C (c) B (d) A

23. Study the following statements carefully and choose the right answer?

**Statements** All writers are lawyers.

All readers are lawyers.

**Conclusions** I. Some lawyers are readers.

II. Some readers are writers.

- (a) Only I follows (b) Only II follows  
(c) Both I and II follow (d) Neither I nor II follows

24. A watch reads 4:30. If the minute hand points East, in what direction will the hour hand point?

- (a) North (b) North-West (c) South-East (d) North-East

25. For an assertion(A) and reason (R) given in the question below, choose the correct alternative from the following.

**Assertion (A)** Cut fruits and vegetables should not be kept in the open for long.

**Reason (R)** Their vitamin content is ruined.

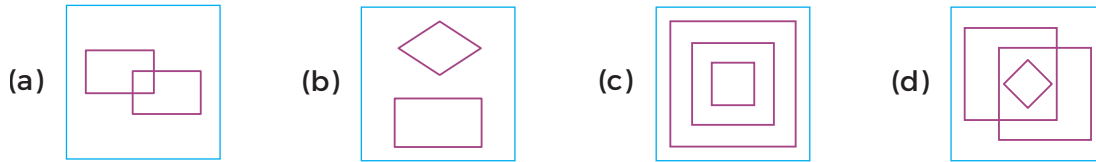
- (a) Both (A) and (R) are true and (R) is the correct explanation of (A).  
(b) Both (A) and (R) are true, but (R) is not the correct explanation of (A).  
(c) (A) is true, but (R) is false.  
(d) (A) is false, but (R) is true.

26. Shiva walks 10 km towards North and then turns right. After walking 3 km, he again turns right and walks 7 km. Now he turns left and walks 1 km. How far is he from the starting point?

- (a) 10 km (b) 7 km (c) 20 km (d) 5 km

27. If the letters of the word ADISHANKARACHARAYA were written in the reverse order, which will be the third letter to the right of the seventh letter from the left?  
 (a) R (b) A (c) K (d) N

28. Which combination figure best represents the relationship between mosquitoes, ants and insects?



29. Find the missing letter.

ABD, DGK, HMS, MTB, SBL, ?

- (a) ZKU (b) ZAB  
 (c) XKW (d) ZKW

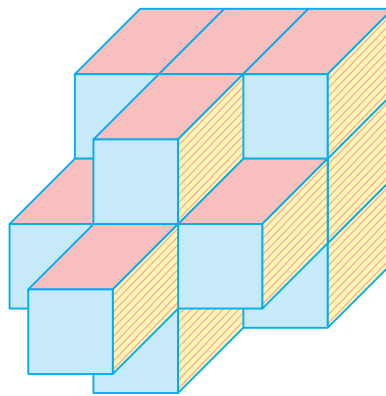
30. If in a certain Code language 'nee tim see' means 'how are you', 'ble nee see' means 'where are you', then what is the code for 'where'?

- (a) see (b) tim (c) nee (d) ble

31. In a row of forty children, P is thirteenth from the left end and Q is ninth from the right end. How many children are there between P and R, if R is fourth to the left of Q?

- (a) 12 (b) 13 (c) 14 (d) 15

32. Count the number of cubes in the figure below.



- (a) 9 (b) 12 (c) 15 (d) 8

33. 'P + Q' means that P is the brother of Q, 'P - Q' means that P is the mother of Q and 'P × Q' means that P is the sister of Q. Which of the following means that M is the maternal uncle of R?

- (a) M - R + K  
 (b) M + K - R  
 (c) M + K × Q  
 (d) There is no such symbol

**Direction** (Q. No. 34) Read the given sequence carefully and answer the given question.

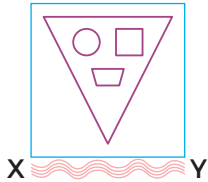
M R 1 5 % ? 6 8 3 D K \$ T H 9 \* F 2 P 7 # @ 4 J

**34.** How many such symbols are there in the above arrangement which are immediately followed by a symbol and also immediately preceded by a number?

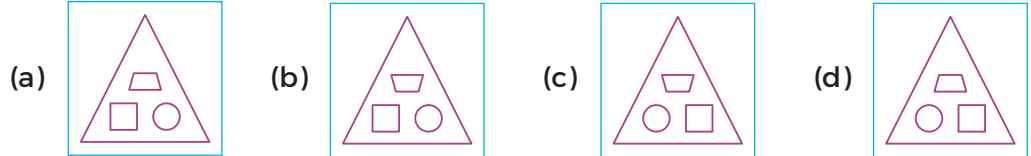
- (a) Two                      (b) Three                      (c) One                      (d) Four

**35.** Choose the correct water image of the question figure, from the given answer figures (assume that water is along XY).

**Question Figure**

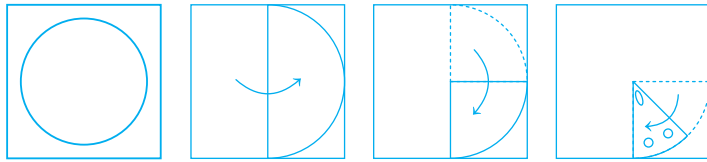


**Answer Figures**

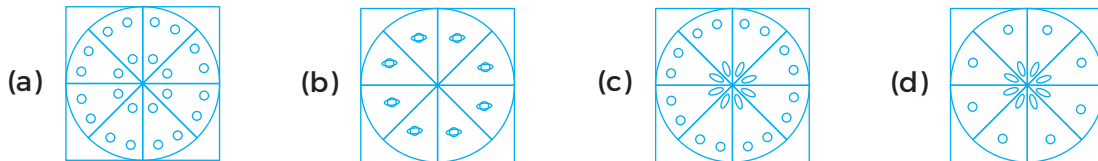


**Directions** (Q. Nos. 36 and 37) In each of the following questions, a transparent sheet with certain and a dotted line is given. From amongst the four answer figures (a), (b), (c) and (d). Choose the one which resembles the transparent sheet after folding it along the dotted line.

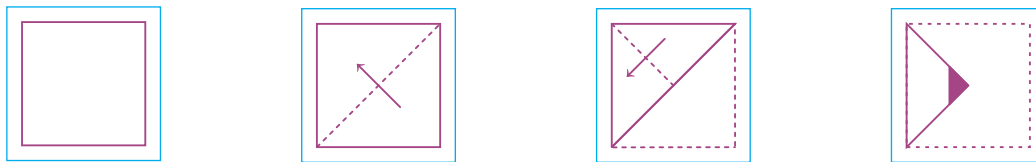
**36. Question Figures**



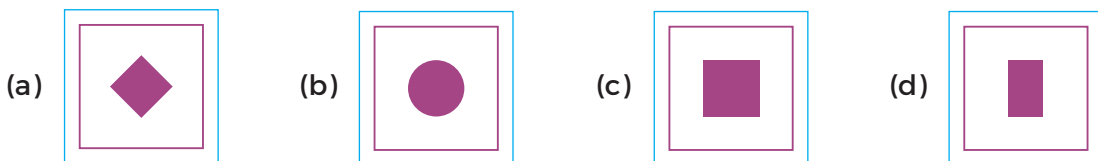
**Answer Figures**



**37. Question Figures**



**Answer Figures**



- 38.** Choose the missing term (?) among the four alternatives given.  
Ornithologist : Birds : Archaeologist : ?  
(a) Artifacts (b) Archipelago (c) Arbiter (d) Aquatic
- 39.** A plastic toy costs ₹ 7. A plastic spoon costs ₹ 5. X spends ₹ 38 on these plastic items. Find the number of plastic toys he/she purchased?  
(a) 3 (b) 4 (c) 5 (d) 2
- 40.** The positions of how many digits in the number 321465987 will remain same when the digits are arranged in ascending order?  
(a) Three (b) One (c) Two (d) None

### Section B (2 Marks Questions)

**Directions** (Q. Nos. 41 and 42) Each of these questions has a statement followed by two conclusions numbered as I and II. Consider the statement and the following conclusions. Decide which of the conclusions follows from the statement.

**Give Answer**

- (a) If neither Conclusion I nor II follows  
(b) If Conclusion II follows  
(c) If Conclusion I follows  
(d) If both Conclusions follow

**41. Statement** There is mounting concern that water will be a flash point for political, social and economic turmoil.

**Conclusions** I. Water faces an endemic global shortage.

II. The scarcity of water will have serious repercussions on our lives.

**42. Statement** Cardiac myopathy is marked by an increase in the size of heart and decrease in the efficiency of pumping.

**Conclusions** I. The bigger the size of heart the better it works.

II. The efficiency of the heart is inversely proportional to the size of the heart.

**Directions** (Q. Nos. 43 and 44) Read the following information carefully and answer the questions that follow.

A solid cube is painted red, blue and black on pairs of opposite faces. It is cut into 64 identical cubes.

**43.** How many cubes have two faces painted red?

- (a) 4 (b) 2 (c) 8 (d) None of these

**44.** How many cubes have three faces painted with different colours?

- (a) 0 (b) 8 (c) 4 (d) 12



**Directions** (Q. Nos. 45 and 46) Study the following information carefully to answer the given questions.

Anjali, Bina, Chaya, Deep, Esha, Faraz, Geet and Hari are sitting around a circular table facing the centre. No two males or two females are immediate neighbours of each other. Anjali is wife of Hari. Anjali sits third to the left to Esha. Faraz sits second to the right of Deep. Deep is not an immediate neighbour of Anjali or Esha. Hari and Chaya are immediate neighbours of each other. Faraz is not an immediate neighbour of his wife Bina.

**45.** Which of the following is true about Geet?

- (a) Geet is a male.
- (b) Geet sits exactly between Faraz and Hari.
- (c) Geet sits second to the right of Bina.
- (d) Geet sits third to the left of Esha.

**46.** Who sits third to the left of Bina?

- (a) Faraz
- (b) Anjali
- (c) Deep
- (d) Hari

**47.** The figure given below is prepared by some sticks and provides an equation that is incorrect.

How many minimum numbers of sticks must be removed from the left hand side to make it a correct equation?

$$86 + 36 + 98 = 100$$

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

**48.** In a certain coding scheme, consonants and vowels are coded differently as illustrated below :

- C is coded as 6.
- Z is coded as 52.
- E is coded as 9.
- O is coded as 29.

Then, find the sum of numerals in the coded version of FAITH.

- (a) 84
- (b) 85
- (c) 86
- (d) 87

**49.** Deepak starts walking straight towards East. After walking 75 m, he turns to the left and walks 25 m straight. Again he turns to the left, walks a distance of 40 m straight, again he turns to the left and walks a distance of 25 m. How far and in which direction is he from the starting point?

- (a) 25 m North
- (b) 50 m South
- (c) 140 m North-East
- (d) None of these

**Direction** (Q. No. 50) Study the following information carefully and answer the given question.

- (i)  $PP \times QQ$  means 'PP is brother of QQ'.
- (ii)  $PP \div QQ$  means 'QQ is mother of PP'.
- (iii)  $PP - QQ$  means 'PP is father of QQ'.
- (iv)  $PP + QQ$  means 'QQ is sister of PP'.

**50.** Which of the following means 'MM is the daughter of TT'.

- (a)  $MM + NN \div JJ - TT$
- (b)  $TT - JJ \times RR + MM$
- (c)  $MM - JJ \times TT \div KK$
- (d)  $MM + WW \times RR \div TT$

# Solutions

1. (a) Except option (a), in all other options first represents the state of second.

2. (c) Except 1189, sum of digits of all other numbers are 10.

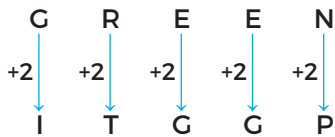
$$8110 = 8 + 1 + 1 + 0 = 10$$

$$9100 = 9 + 1 + 0 + 0 = 10$$

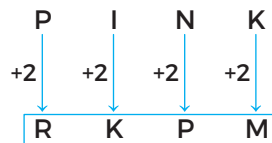
$$1234 = 1 + 2 + 3 + 4 = 10$$

$$1189 = 1 + 1 + 8 + 9 = 19$$

3. (a) As,

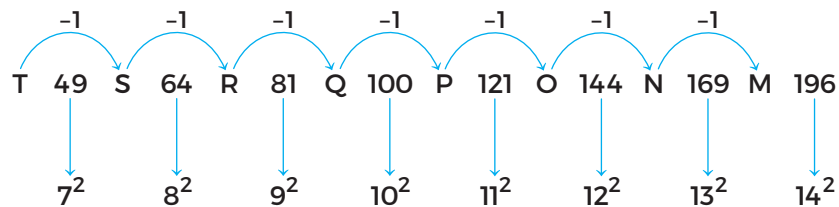


Similarly,



∴ Option (a) is the correct choice.

4. (a) The pattern is as follows,



∴ ? = N169M196

5. (c) Given,  $117 \text{ L } 3 \text{ K } 5 \text{ M } 12 \text{ D } 8 = ?$

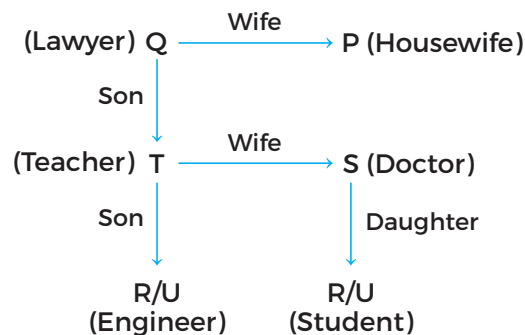
Now, change the alphabet into the signs,

$$\Rightarrow ? = 117 \div 3 - 5 + 12 \times 8$$

$$\Rightarrow ? = \frac{117}{3} - 5 + 12 \times 8 \Rightarrow ? = 39 - 5 + 96$$

$$\Rightarrow ? = 135 - 5 \Rightarrow ? = \boxed{130}$$

6. (c) According to the question,



It is clear that the granddaughter of family is a student.

7. (b) In letter sequence,

Position of A = 1

Position of F = 6

Position of I = 9

$$\Rightarrow \sqrt{AFI} = \sqrt{169} = \sqrt{13^2} = 13 \Rightarrow M$$

Position of A = 1

Position of D = 4

$$\Rightarrow \sqrt{ADD} = \sqrt{144} = \sqrt{12^2} = 12 \Rightarrow L$$

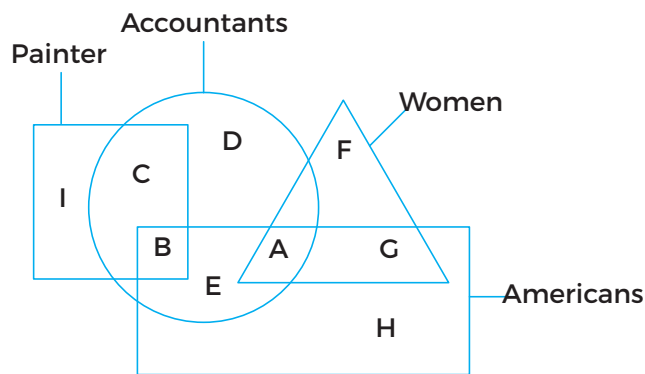
Position of A = 1, Position of B = 2

$$\Rightarrow \sqrt{ABA} = \sqrt{121} = \sqrt{11^2} = 11 \Rightarrow K$$

8. (a) From the different positions of a dice, 5 cannot be opposite to 1, 2, 3 and 6 so, 5 is opposite to 4.

∴ Option (a) is the correct choice.

9. (b) Naming the figure,

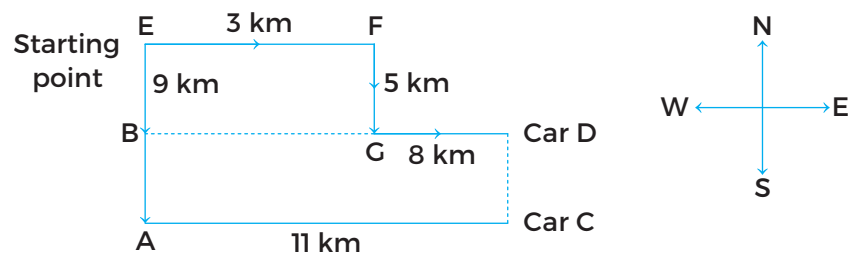


It is clear from the above diagram that Americans who are not accountants are G and H.

10. (a) Given series, 0 1 4 27 16 125 36 343

$\downarrow$     $\downarrow$     $\downarrow$     $\downarrow$     $\downarrow$     $\downarrow$     $\downarrow$     $\downarrow$   
 $0^2$     $1^3$     $2^2$     $3^3$     $4^2$     $5^3$     $6^2$     $7^3$

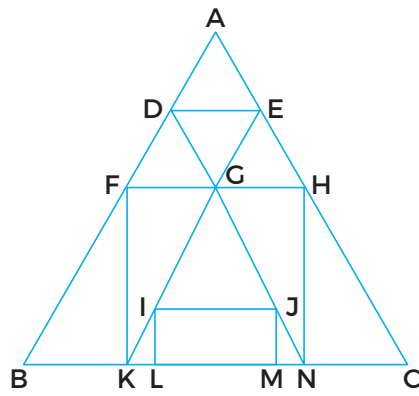
11. (c) According to the question,



Required distance,  $CD = AE - FG = 9 - 5 = 4$  km

∴ D is 4 km towards North with respect to C.

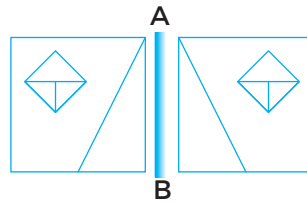
12. (c) Naming the figure,



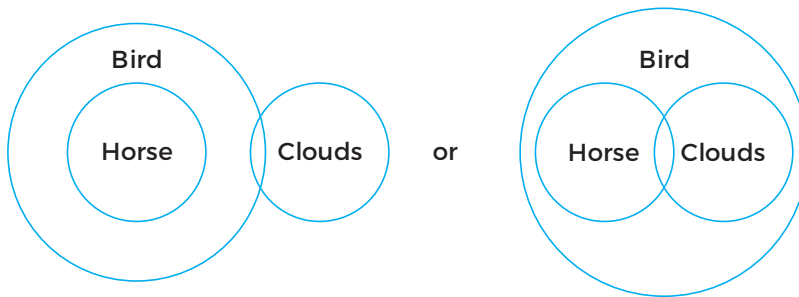
The triangles are 16

$\triangle ADE$ ,  $\triangle GDE$ ,  $\triangle DFG$ ,  $\triangle EGH$ ,  $\triangle FKB$ ,  $\triangle FGK$ ,  $\triangle GIJ$ ,  $\triangle GHN$ ,  $\triangle HNC$ ,  $\triangle ILK$ ,  $\triangle JMN$ ,  $\triangle AFH$ ,  $\triangle DBN$ ,  $\triangle GKN$ ,  $\triangle EKC$  and  $\triangle ABC$

13. (b) Answer figure (b) is the correct mirror image of the given question figure.

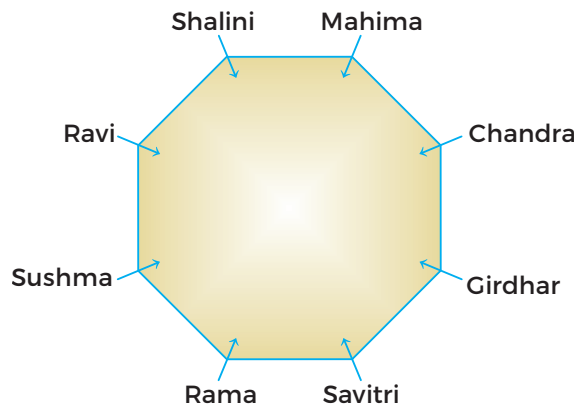


14. (a) According to the question,



It is clear from diagram only Conclusion I follows.  
Hence, option (a) is correct.

15. (a) According to the given information, the sitting arrangement is as shown below,



Clearly, Ravi is on Shalini's right.

16. (d) A family has – man + wife + 3 sons + 3 wives + 3 × 3 (children) = 1 + 1 + 3 + 3 + 9 = 17

17. (a) Equation (A),  $16 + 19 \times 21 - 5 = 201$

By interchanging the signs, we get

$$16 - 19 \div 21 + 5 = 201$$

$$21 - 19 \div 21 \neq 201$$

Equation (B),

$$5 \times 6 + 4 \div 3 = 37 / 6$$

By interchanging the signs, we get

$$5 \div 6 - 4 \times 3 = \frac{37}{6} \Rightarrow \frac{5}{6} - 12 \neq \frac{37}{6}$$

Equation (C),  $6 \times 3 + 12 \div 3 = 21$

By interchanging the signs, we get

$$6 \div 3 - 12 \times 3 = 21$$

$$2 - 36 \neq 21$$

Equation (D)

$$18 \times 6 \div 8 - 12 = 36$$

By interchanging the signs, we get

$$18 \div 6 \times 8 + 12 = 36 \Rightarrow 24 + 12 = 36 \Rightarrow 36 = 36$$

Hence, equation (D) is correct.

18. (b) As, PEN-TAN =  $(16 + 5 + 14) - (20 + 1 + 14) = 35 - 35 = 0$

Similarly, DEN-COB =  $(4 + 5 + 14) - (3 + 15 + 2) = 23 - 20 = 3$

Hence, option (b) is correct.

19. (c) Option (c) is the odd one out figure.

As in this, shaded portion lies in the same triangle.

Hence, option (c) is correct.

20. (c) According to the question,

In first row, Veena is 12th from the starting and 19th from the end.

Then, total number of girls =  $(12 + 19 - 1) = 30$

In second row, Sunita is 14th from the starting and 20th from the end.

Then, total number of girls =  $(14 + 20 - 1) = 33$

∴ Total number of girls =  $30 + 33 = 63$

Hence, option (c) is correct.

21. (a) In every alternate step the shaded portion is moving two blocks and three blocks ahead (in clockwise direction) respectively.

22. (b) According to the question,

$$A > D$$

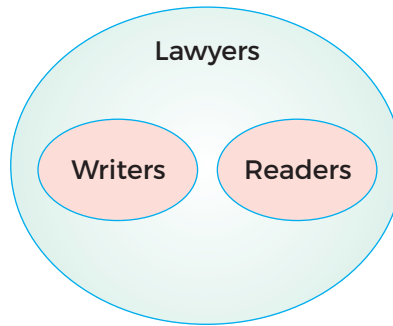
$$C > B > A$$

∴

$$C > B > A > D$$

So, highest building is C. Hence, option (b) is correct.

23. (a) According to the statements, Venn diagram is as follows

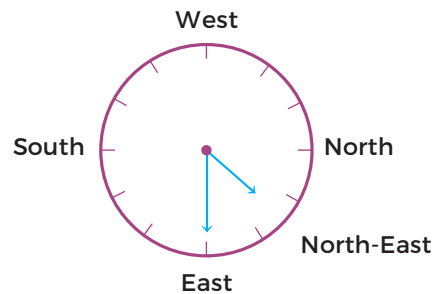


**Conclusions** I. Some lawyers are readers. (✓)

II. Some readers are writers. (X)

Hence option (a) is correct.

24. (d) If the minute hand points East direction, then hour hand point is in North-East.

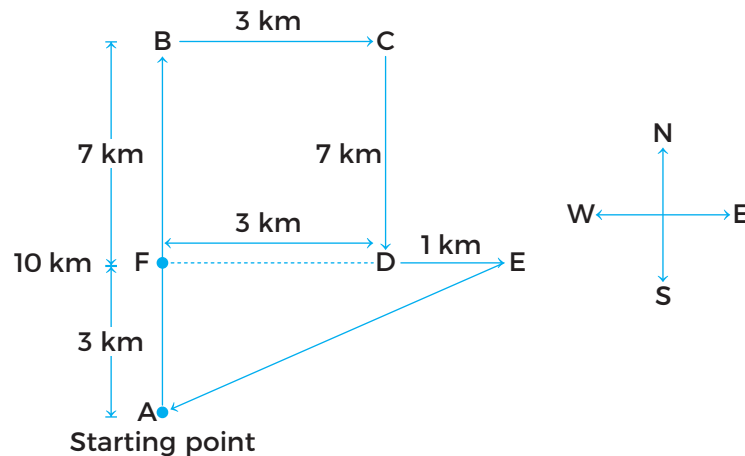


Hence, option (d) is correct.

25. (a) Both (A) and (R) are true and (R) is the correct explanation of (A).

Hence, option (a) is correct.

26. (d) According to the question,



$$AE = \sqrt{(FE)^2 + (AF)^2}$$

$$AE = \sqrt{(4)^2 + (3)^2} \Rightarrow AE = \sqrt{16 + 9} \Rightarrow AE = \sqrt{25} \Rightarrow AE = 5$$

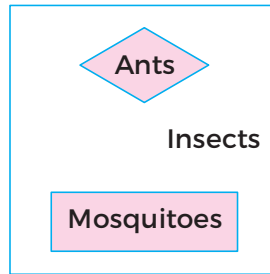
He is 5 km away from the starting point. Hence, option (d) is correct.

27. (b) Given words,

A D I S H A N K A R A C H A R A Y A  
 | | | | | | | | | | | | | | | | | | | |  
 A Y A R A H C A R A K N A H S I D A

Hence, A is third letter to the right of the seventh letter from the left.  
 Hence, option (b) is correct.

28. (b) According to the question,



Option (b) is the correct representation of the relationship between mosquitoes, ants and insects.

Ants and mosquitoes, both are insects.  
 No ant is mosquito.  
 No mosquito is ant.  
 Hence, option (b) is correct.

29. (d) The pattern of the series is as follows :

A  $\xrightarrow{+3}$  D  $\xrightarrow{+4}$  H  $\xrightarrow{+5}$  M  $\xrightarrow{+6}$  S  $\xrightarrow{+7}$  Z  
 B  $\xrightarrow{+5}$  G  $\xrightarrow{+6}$  M  $\xrightarrow{+7}$  T  $\xrightarrow{+8}$  B  $\xrightarrow{+9}$  K  
 D  $\xrightarrow{+7}$  K  $\xrightarrow{+8}$  S  $\xrightarrow{+9}$  B  $\xrightarrow{+10}$  L  $\xrightarrow{+11}$  W

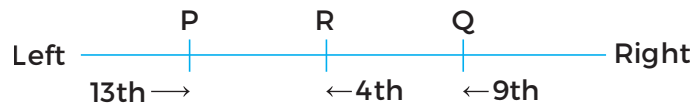
So, ? = ZKW

30. (d) On the basis of the given information,

How are you  $\rightarrow$  need tim see  
 Where are you  $\rightarrow$  ble need see

$\therefore$  The code for 'where' is 'ble'.

31. (c) The arrangement can be drawn as



Number of children between P and R =  $40 - (13 + 9 + 4) = 14$

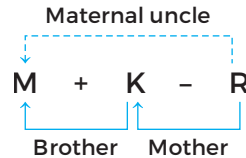


32. (c) Clearly, there are 4 rows containing 1 cube each, 4 rows containing 2 cubes each and 1 row containing 3 cubes.

$$\therefore \text{Total number of cubes} = (4 \times 1) + (4 \times 2) + (1 \times 3) = 4 + 8 + 3 = 15$$

Hence, option (c) is correct.

33. (b) From option (b),



Clearly, M is the maternal uncle of R.

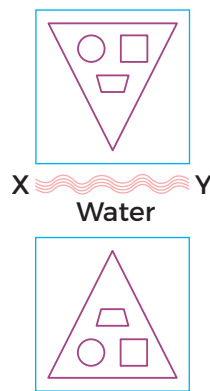
34. (a) There are two symbols i.e. 7#@, 5%?. Hence, option (a) is correct.

35. (d) In the water image.

The top side of the object becomes the bottom.

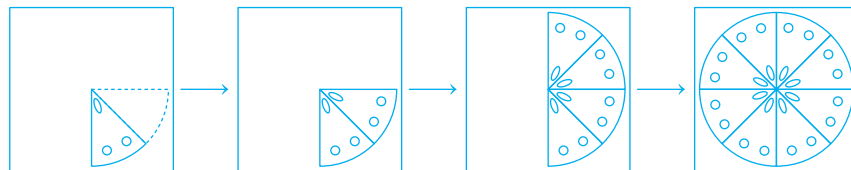
The bottom side of the object becomes the top.

The left and right side of the object remain unchanged.

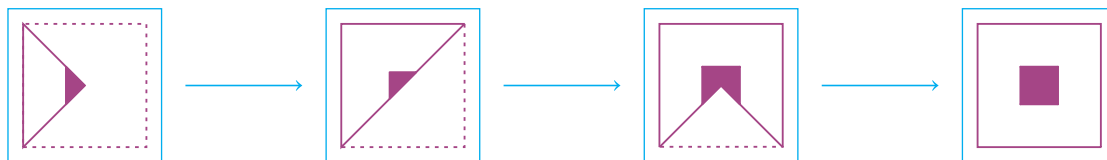


Hence, option (d) is correct.

36. (c) After unfolding the folded and punched pattern we get answer figure (c).



37. (c) When the last figure is opened at one fold then at second fold, the figure will resemble with figure (c) among the alternative.



Hence, the correct answer is (c).

38. (a) One who studies different varieties of 'Birds' is known as 'Ornithologist'. In the same way, 'Archaeologist' studies 'Artifacts'.

39. (b) Let the number of plastic toy =  $k$

Number of spoon =  $y$

∴ According to the question,  $7x + 5y = 38$

Now, from option (a),  $x = 3$

$$7 \times 3 + 5y = 38$$

$$\Rightarrow 5y = 38 - 21$$

$$\therefore y = \frac{17}{5} \quad (y \text{ cannot be equal to a fraction})$$

Now, from option (b),

$$x = 4$$

$$7 \times 4 + 5y = 38$$

$$28 + 5y = 38$$

$$5y = 10$$

$$\therefore y = 2$$

Hence, the number of plastic toys = 4

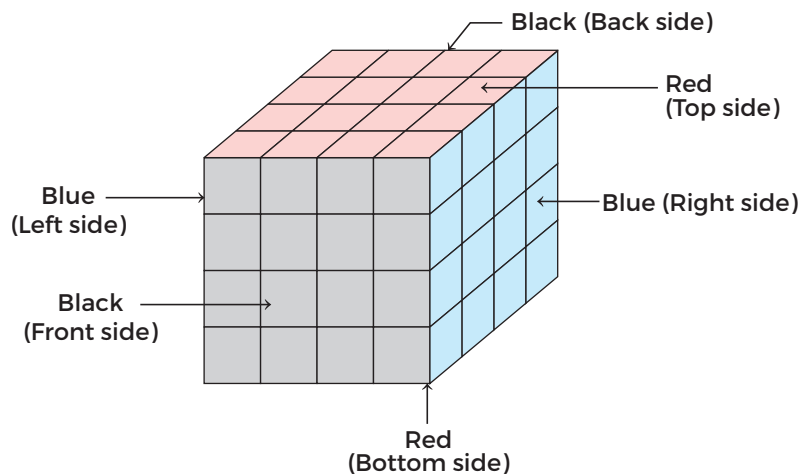
40. (a) Given number 3 2 1 4 6 5 9 8 7  
 Ascending order 1 2 3 4 5 6 7 8 9

Hence, 2, 4 and 8 will remain at same position.

41. (c) Mounting concern that water will be a flash point for political, social and economic turmail, because water faces an endemic global shortage. So, only Conclusion I follows.

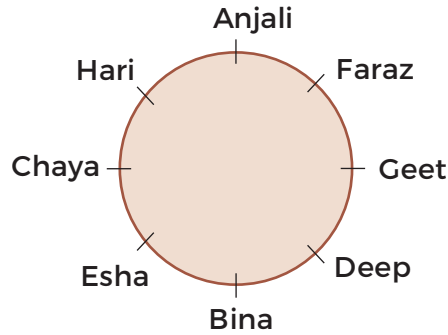
42. (b) From the given statement, we clearly say that the efficiency of the heart is inversely proportional to the size of the heart. So, only Conclusion II follows.

Sol. (Q. Nos. 43 and 44) According to the given information,



43. (d) There is no small cube with two of its faces painted with the same colour.  
Hence, option (d) is correct.
44. (b) Four corner cubes in layer I and four corner cubes in layer IV have three faces painted with different colours-red, blue and black. Thus, there are 8 such cubes.  
Hence, option (b) is correct.

**Sol.** (Q. Nos. 45 and 46) According to the given information, arrangement is as follows



Male	Female
Deep	Geet
Esha	Chaya
Faraz (Husband)	Bina (Wife)
Hari (Husband)	Anjali (Wife)

45. (c) Geet sits second to the right of Bina is true. Hence, option (c) is correct.
46. (d) Hari sits third to the left of Bina. Hence, option (d) is correct.
47. (c) Given,

$$86 + 36 + 98 = 100$$

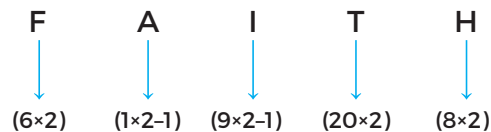


$$26 + 36 + 38 = 100$$

Hence, 3 sticks must be removed from the left hand side to make it a correct equation.

48. (c) Consonant  $\Rightarrow$  Place value  $\times 2$

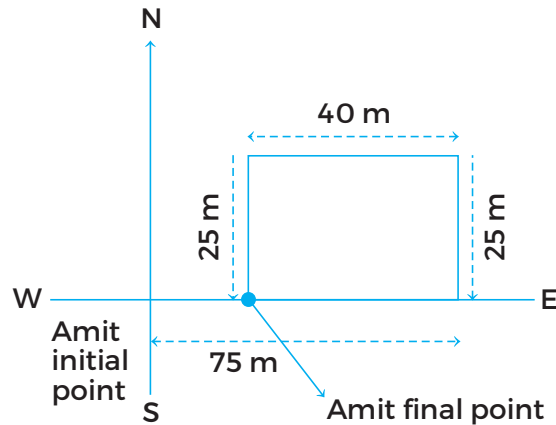
Vowel  $\Rightarrow$  Place value  $\times 2 - 1$



$$\Rightarrow 12 + 1 + 17 + 40 + 16 = 86$$

Hence, the sum of numerals in the coded version of FAITH is 86.

49. (d) According to the question, the direction diagram of Deepak is as follows.



Distance between initial point and final point =  $75 - 40 = 35$  m  
 and now, Deepak is in East direction from his starting point.  
 Hence, option (d) is correct.

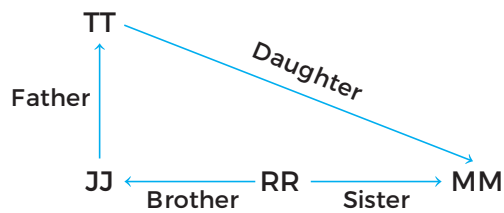
50. (b) From the given information,

TT - JJ  $\Rightarrow$  TT is father of JJ

JJ  $\times$  RR  $\Rightarrow$  JJ is brother of RR.

RR + MM  $\Rightarrow$  RR is sister of MM

The relationship chart can be shown as



So, 'TT' is the father of 'MM'.  
 Hence, option (b) is correct.