MENTAL ABILITY TEST – 2017

Time: 45 Minutes **Maximum Marks: 50**

Please read the instructions carefully.

INSTRUCTIONS

Instructions to the Candidates

Read the following instructions carefully before you answer the question:

1. Answer are to be given on a **SEPARATE ANSWER SHEET**.
2. Please write your **eleven digits Roll Number** very clearly on the Test-Booklet and **Answer Sheet** as given in your admission card.
3. Please note **and follow the instructions** given on the answer sheet for writing the answers.
4. **Darken the CIRCLE with pen for answering** the question in the appropriate space against the number corresponding to the questions you are answering.
5. There are 50 questions in the test.
6. Since **all questions are compulsory**, do not try read the whole question paper before beginning to answer it.
7. If you do not know the answer to any question, do not spend much time on it and pass on to the next one. Time permitting, you can come back to the question, which you left in the first instance and try them again.
8. Since the time allotted for this question paper is very limited you should make the best use of it by not spending too much time on any one question.
9. **Rough work** can be done **anywhere in the booklet** but not on the answer sheet/loose paper.
10. Every correct answer will be awarded one mark.
11. **Please return the answer sheet to the invigilator after the test.**

Enrollment No. : | | | | | | | | | | | | **Batch :** _____

Name : _____

Candidate's Signature _____ **Invigilator's Signature:** _____

1. In the given sequence some letters are missing. Which of the given options can fill the blanks in the correct order from left to right?
A _ ba _ b _ b _ a _ b
(A) abaab (B) abbab
(C) aabba (D) bbabb

2. Which set of numbers is like the given set?
Given set 11; 1210
(A) 8:448 (B) 6:2160
(C) 7:1029 (D) 9:729

3. CIRCLE is related to RICELC in the same way as SQUARE is related to
(A) QSUERA (B) QUSERA
(C) UQSAER (D) UQSERA

4. In code language, ASTARK is written as LBFMG and MOBILE is written as TNRSPJ. How is BLAME written in that code?
(A) TSFRJ (B) RPFTJ
(C) NJFTP (D) TSFGJ

5. If each of the letters in the English alphabet is assigned odd numerical value beginning A = 1, B = 3 and so, what will be the total value of the letters of the word INDIAN?
(A) 86 (B) 88
(C) 89 (D) 96

6. On another planet, the local terminology for 'earth', 'water', 'light', 'air', and 'sky' are 'sky', 'light', 'air', 'water' and 'earth' respectively. If someone is thirsty there, what would he drink?
(A) Light (B) Air
(C) Sky (D) Water

7. Choose the odd numeral pair
(A) 2:4 (B) 4:8
(C) 6:18 (D) 8:32

8. Choose the odd one out
(A) HJN (B) JLP
(C) PRU (D) QSW

9. If A = 2, M = 26, Z = 52, then BET = ?
(A) 44 (B) 54
(C) 64 (D) 72

10. Pointing toward Rita, Nikhil said, "I am the only son of her mother's son". How is Rita related to Nikhil?
(A) Aunt (B) Niece
(C) Mother (D) Cousin

Directions (Questions 11 to 13) Read the following information carefully and answer the questions given below.

Ravi and Kunal are good in hockey and volleyball. Sachin and Ravi are good in Hockey and baseball. Gaurav and Kunal are good in cricket and volleyball.Sachin, Gaurav and Michael are good in football and baseball.

11. Who is good in Hockey, Cricket and Volleyball?
(A) Sachin (B) Kunal
(C) Ravi (D) Gaurav

12. Who is good in Baseball, Cricket, Volleyball and Football?
(A) Sachin (B) Kunal
(C) Gaurav (D) Ravi

13. Who is good in Baseball, Volleyball and Hockey?
(A) Sachin (B) Kunal
(C) Ravi (D) Gaurav

14. A, P, R, X, S and Z are sitting in a row. S and Z are in the centre, and A and P are at the ends. R is sitting on the left of A. Then who is sitting on the right of P?
(A) A (B) S
(C) X (D) Z

15. A man is facing west. He turns 45° in the clockwise direction and then another 180° in the same direction and then 270° in the anticlockwise direction. Which direction is he facing now?
(A) South (B) North West
(C) West (D) South West

16. Kunal walks 10km towards North. From there, he walks 6km towards South. Then, he walks 3km towards East. How far and in which direction is he with reference to his starting point?
(A) 5 km West (B) 5 km North East
(C) 7 km East (D) 7 km West

17. 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

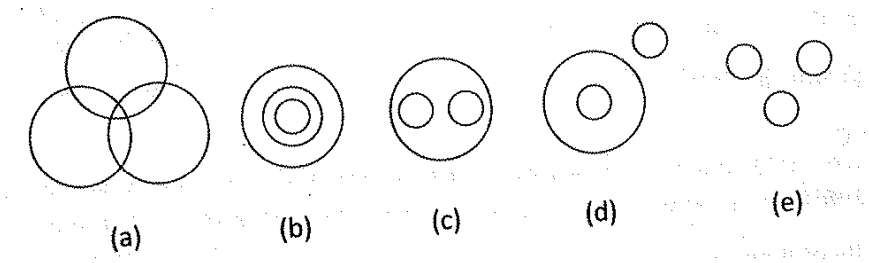
Direction (Question 18 to 20) These questions are based on the following information:
Seven villages A, B, C, D, E, F and G are situated as follows
E is 2km to the west of B
F is 2 km to the North A
C is 1km to the West of A
D is 2km to the South of G
G is 2km to the East of C
D is exactly in the middle of B and E

18. A is the middle of ……..
(A) E and C (B) E and G
(C) F and G (D) G and C

19. Which two villages are the farthest from one another?
(A) D and C (B) F and E
(C) F and B (D) G and E

20. How far is E from F (in km) as the crow flies?
(A) 4 (B) $\sqrt{20}$
(C) 5 (D) $\sqrt{26}$

Direction (Questions 21-25) in each of these question, three words are related in some ways. The relationship among the words in the question can best be represented by one of the five diagrams, (a), (b), (c), (d) and (e) given below. Mark your answer accordingly.



21. Teacher, College, Student
(A) b (B) c
(C) d (D) e

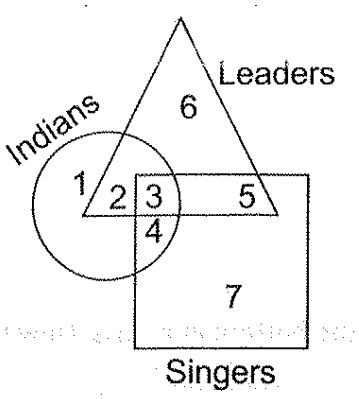
22. Universe, Galaxy, Star
(A) b (B) c
(C) e (D) a

23. Parrots, birds, Mice
(A) e (B) c
(C) d (D) a

24. Professor, Researcher, Scientist
(A) d (B) a
(C) b (D) c

25. English, Latin, Greek
(A) a (B) d
(C) c (D) e

Directions (Questions 26-30) study the following figure carefully and answer the given questions:



26. Which region denotes Indian leaders who are not singers.
(A) 2 (B) 3
(C) 4 (D) 5

27. Which region represent Indian Leaders who are singers?
(A) 2 (B) 3
(C) 4 (D) 5

28. Which region represents leaders who are neither singers nor Indian?
(A) 2 (B) 3
(C) 6 (D) 7

29. Which region represents Indian singers who are not leaders?
(A) 1 (B) 2
(C) 3 (D) 4

30. Which region represents singers who are neither Indians nor leaders?
(A) 2 (B) 4
(C) 6 (D) 7

Directions question (31-32) In each of the following questions choose the word which comes at the end in the English dictionary.

31. (A) Clarinet (B) Clandestine
(C) Clause (D) Clasp

32. (A) Disconnect (B) Disembark
(C) Disclose (D) Disconcert

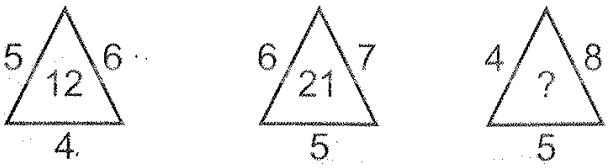
33. Rohan ranks seventh from the top and twenty sixth from the bottom in a class. How many students are these in the class?
(A) 31 (B) 32
(C) 33 (D) 34

34. If 1st October is Sunday, then 1st November will be
(A) Monday (B) Tuesday
(C) Wednesday (D) Thursday

35. If +stands for X, - for ÷, × for – and ÷ for +, find the value of 26 + 74 – 4 × 5 ÷ 2
(A) 220 (B) 376
(C) 478 (D) 488

36. A farmer built a fence around his square plot. He used 27 fence on each ride of the square. How many poles did he need altogether.
(A) 100 (B) 104
(C) 108 (D) None of these

Find the missing character from among the given alternatives. Direction (Questions 37-38)



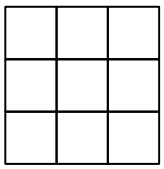
37. (A) 22 (B) 30
(C) 32 (D) None of these

38.

2	5	10
17	?	37
50	65	82

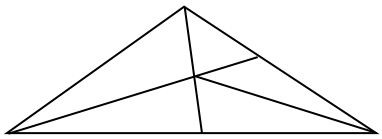
(A) 20 (B) 26
(C) 27 (D) 32

39. Count the number of squares in the given figure.



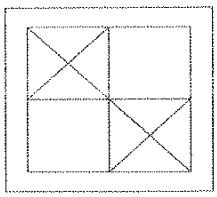
(A) 18 (B) 14
(C) 10 (D) 9

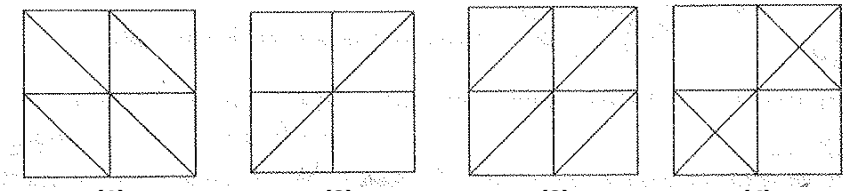
40. How many triangles are there in the following figure?



(A) 6 (B) 10
(C) 11 (D) 12

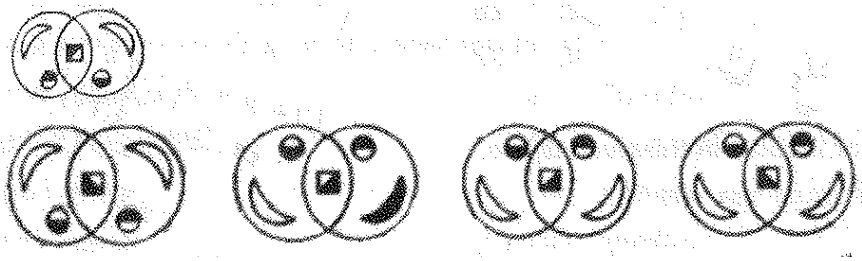
41. Choose the correct mirror image of the figure given below.





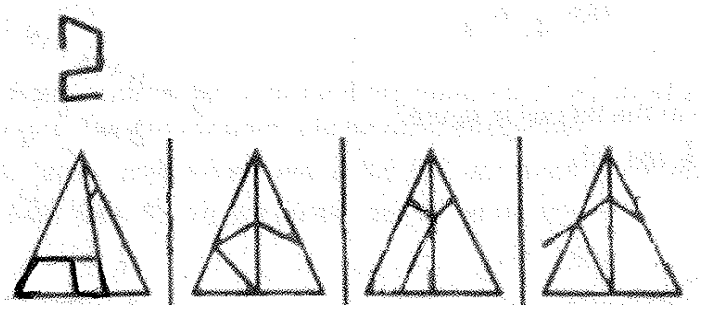
(1) **(2)** **(3)** **(4)**

42. Choose the correct water image for the given figure.



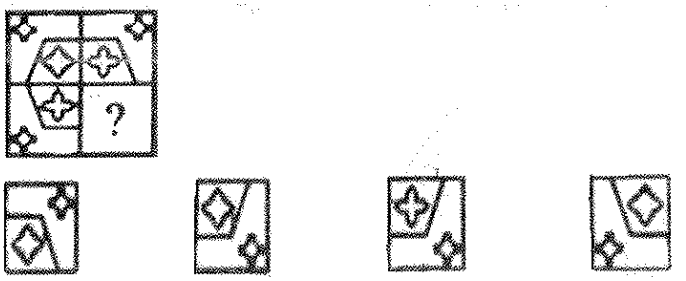
(1) **(2)** **(3)** **(4)**

43. Find the figure in which the given figure is embedded.



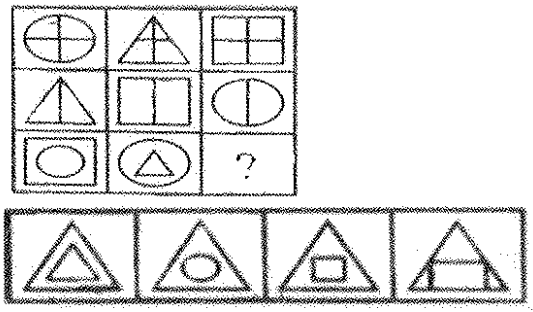
(1) **(2)** **(3)** **(4)**

44. Find the correct figure from the given four figures which fits in the question figure.



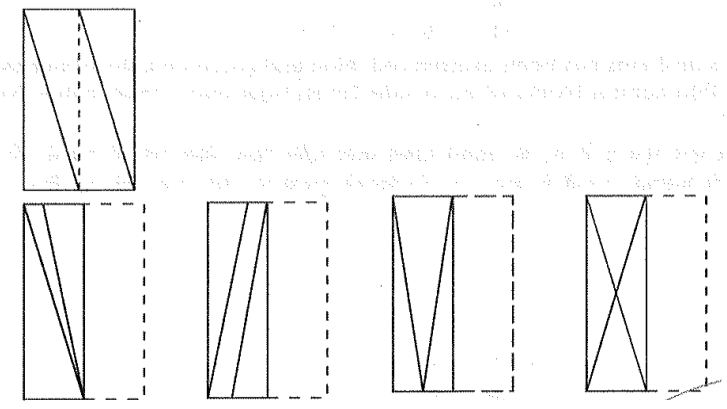
(1) **(2)** **(3)** **(4)**

45. Find out, which of eth answer figures complete the figure matrix.



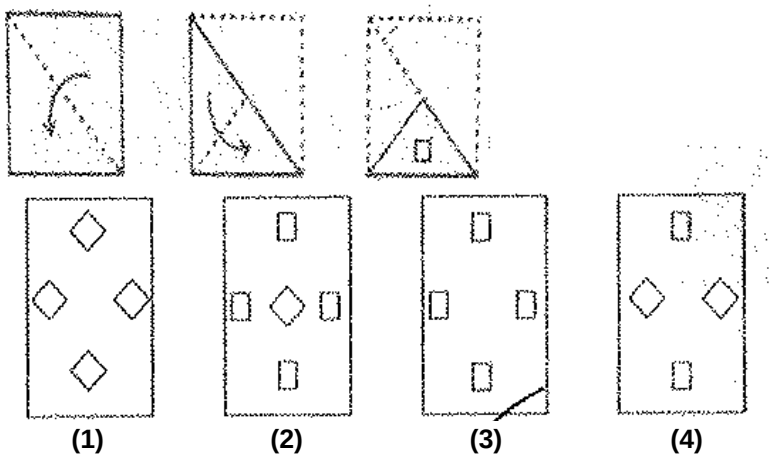
(1) **(2)** **(3)** **(4)**

46. Three figures are followed by four answer figures from which you have to choose a figure which would most closely resemble the uploaded from of the figure.

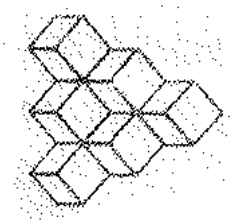


(1) **(2)** **(3)** **(4)**

47. Figure out from amongst the four alternatives as to how the pattern would have appear when the transparent sheet is placed along the dotted line.

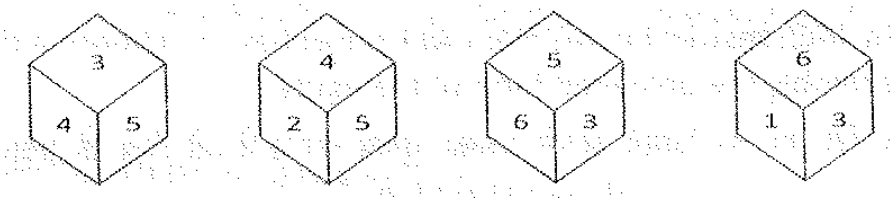


48. Count the number of cubes in the given figure.



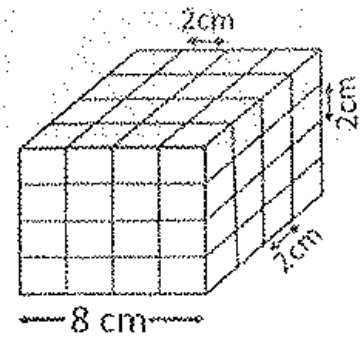
(A) 6
(B) 9
(C) 10
(D) 11

49. What number is opposite to 6, if four different positions of a dice are shown below.



(A) 1
(B) 2
(C) 4
(D) 5

50. A solid cube of each side 8 cms has been painted red, blue and green on pairs of opposite faces. It is then cut into cubical blocks of each side 2 cms. How many small cubes have three faces painted?



(A) 0
(B) 4
(C) 6
(D) 8

MENTAL ABILITY TEST

NTSE – 2017

ANSWERS

1. D	2. A	3. D	4. B	5. D
6. A	7. A	8. C	9. B	10. A
11. B	12. C	13. C	14. C	15. D
16. B	17. D	18. D	19. C	20. A
21. B	22. A	23. C	24. B	25. D
26. A	27. B	28. C	29. D	30. D
31. C	32. B	33. B	34. C	35. C
36. B	37. D	38. B	39. B	40. D
41. D	42. D	43. A	44. B	45. C
46. D	47. C	48. C	49. C	50. D

MENTAL ABILITY TEST

SOLUTIONS

1. a^b_ ba^b_b^a_b^b_a^b_b

2. $11^3 - 11^2 = 1210$
$8^3 - 8^2 = 448$

3.
$$\frac{\text{CIR}}{\text{RIC}}\ \frac{\text{CLE}}{\text{ELC}}$$
$$\frac{\text{SQU}}{\text{UQS}}\ \frac{\text{ARE}}{\text{ERA}}$$

4. DIRECT CODING
B →R
L→P
A→F
M→T
E→J

5. INDIAN
I = 9 x 2 –1 = 17
N = 14 x 2 –1 = 27
D = 4 x 2 –1 = 3
I = 9 x 2 –1 = 17
A = 1 x 2 –1 = 1
N = 14 x 2 –1 = 27
17 + 27 + 3 + 17 + 1 + 27 = 96

6. Water → light ∈

7. $4 \times \frac{4}{2} = 8$

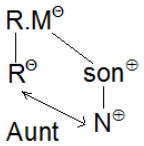
$6 \times \frac{6}{2} = 18$

$8 \times \frac{8}{2} = 32$

8. $\overset{8}{\underset{+2}{H}}\ \overset{8}{\underset{+4}{J}}\ \overset{14}{N}$

9. BET =?
B = 2 × 2 = 4
E = 5 × 2 = 10
T = 20 × 2 = 40
4 + 10 + 40 = 54

10.



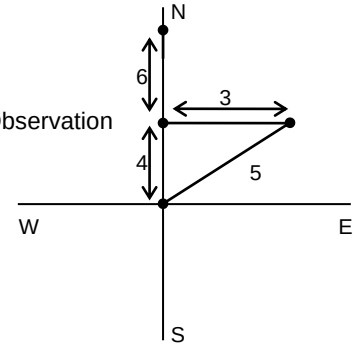
11-13

Hockey	Volleyball	Baseball.	Cricket	Football
Ravi, Kunal, Sachin	Ravi, Kunal, Gaurav	Ravi, Sachin, Gaurav, Michael	Gaurav, Kunal	Sachin, Gaurav, Michael

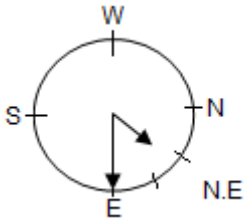
14. Arrangement is
P X Z/S S/Z R A

15. By Observation

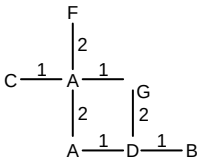
16. By Observation



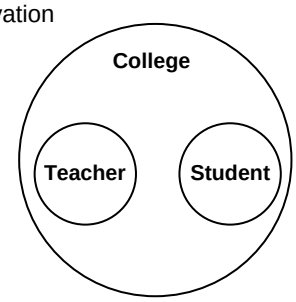
17. AL 4 : 30



(18 – 20) By direction



21. By observation



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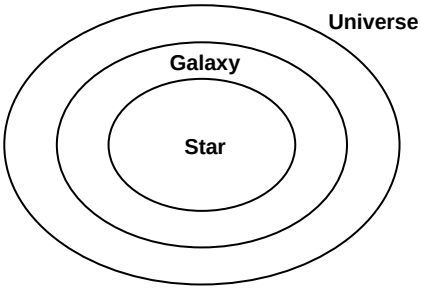

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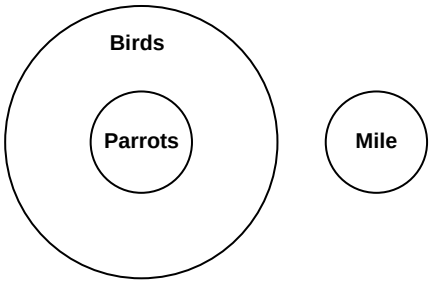

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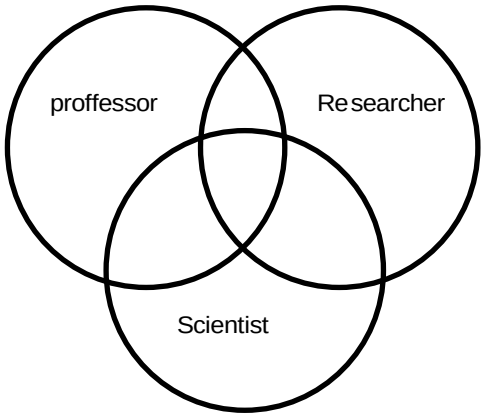

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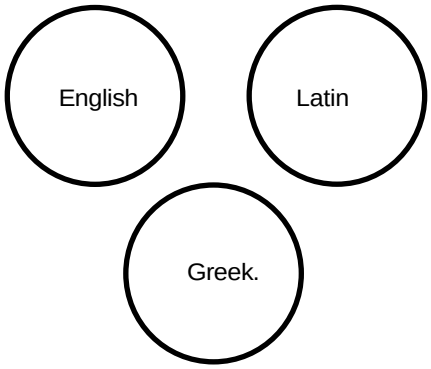

26. No. 2 represent the Indian leaders who are not singers.

27. No. 3 represents Indian leaders who are singers

28. No. 6 represents leaders who are neither singers nor Indians.

29. No. 4 represents Indian singers who are not leaders.

30. No. 7 represents singers who are neither Indians nor leaders.

31. 'Clause' is the word which comes at the end in the English dictionary.

32. 'Disembark' is the word which comes at the end in the English dictionary.

33. No. of students in the
Class = (7 + 26) –1= 32

34. 1 October = Sunday
Odd days from 1 October to 1 November are 3
Sunday + 3 = Wednesday

35. The equation is
$26 \times 74 \div 4 - 5 + 2$
By BODMAS RULE
$26 \times \frac{74}{4} - 5 + 2$
$13 \times 37 - 5 + 2 = 478$

36. By observation answer is 104.

37. (A) $5 \times 6 \times 4 = \frac{120}{10} = 12$
$6 \times 7 \times 5 = \frac{210}{10} = 21$
$4 \times 8 \times 5 = \frac{160}{10} = 16$
(B) $(6 \times 4) - (5 \times 2 + 2) = 24 - 12 = 12$
$(7 \times 5) - (6 \times 2 + 2) = 35 - 14 = 21$
$(5 \times 8) - (4 \times 2 + 2) = 40 - 10 = 30$

38. By observing the difference
Between
(A) 2 5 10
(B) 17 26 37
(C) 50 61 82

39. $3 \times 3 = 9$
$2 \times 2 = 4$
$1 \times 1 = 1$
There ore 14 squares
In the in the figure

40. By observation there are 12 triangles in the figure

41. By observation

42. By observation

43. By observation

44. By observation

45. By observation

46. By observation

47. By observation

48. By observation

49. By observation
5 is opposite to 1
3 is opposite to 2
and 4 is opposite to 6

50. By observation one cube on each corner Total = 8