NATIONAL TALENT SEARCH EXAMINATION (NTSE-2021) STAGE -1

STATE : MAHARASHTRA PAPER : MAT

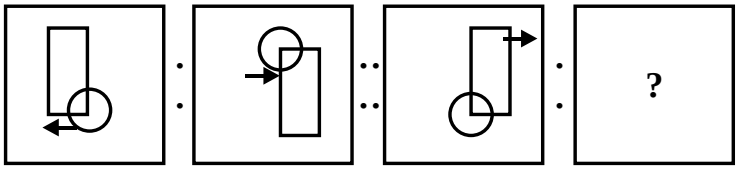
Date: 13/12/2020

Max. Marks: 100 **SOLUTIONS** **Time allowed: 120 mins**

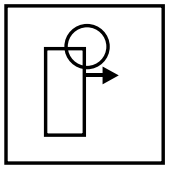
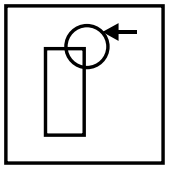
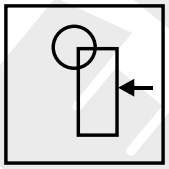
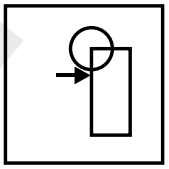
Q. 1 to 3 Direction:

In each of the following questions there is a specific relationship between the first and second figure. The same relationship exists between the third and fourth figure which will replace the question mark. Select the correct option from the given alternatives.

1. Question figures



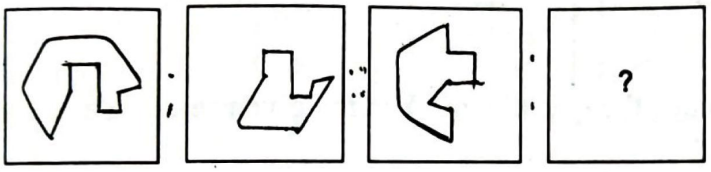
Answer figures

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

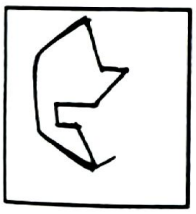
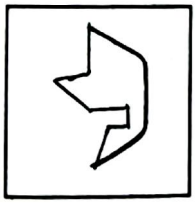
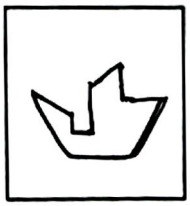
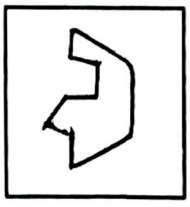
Ans. (2)

Sol. By observation

2. Questions figures



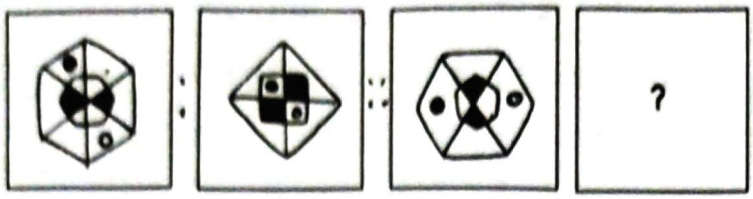
Answer figures

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

Ans. (4)

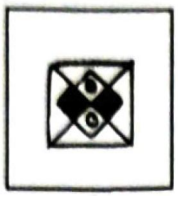
Sol. By observation

3. Question figures



Answer figures

(1) 

(2) 

(3) 

(4) 

Ans. (2 & 3)

Sol. By observation

4. A B Z Y C D X W E F V U G H T S I J R Q K L P O M N

Observe the letter series and observe letter which is at the central place of letters which is at 8th place from the left and at 13th place from right, find the serial number of that letter from left?

(1) 13 (2) 14 (3) 16 (4) 11

Ans. (4)

Sol. $\xrightarrow[\text{left}]{\text{8th from the}}$ w (2) V (2) H $\xleftarrow[\text{right}]{\text{13th from the}}$

Q. 5 to 8 Direction:

Which number will replace the question mark in the given series. Select the correct number from the given alternatives.

5. 68, 54, 45, 34, 27, ?

(1) 13 (2) 17 (3) 18 (4) 21

Ans. (Bonus)

Sol. 68, 54, 45, 34, 27, ?

6 + 8 = 14, this is the difference between 68 & 54.

5 + 4 = 9, this is the difference between 54 & 45.

'34' should be replaced with '36'

6. 18, 30, 48, 72, 96, ?

(1) 96 (2) 106 (3) 115 (4) 120

Ans. (1)

Sol. 18, 30, 48, 72, 96, ?

$18 \times 2 - 6 = 30$

$30 \times 2 - 12 = 48$

$48 \times 2 - 24 = 72$

$72 \times 2 - 48 = 96$

$96 \times 2 - 96 = 96$

7. 8, 1, 9, 10, 19, 29, ?, 77

(1) 38 (2) 48 (3) 52 (4) 56

Ans. (2)

Sol. 8 + 1 = 9

1 + 9 = 10

9 + 10 = 19 .....

19 + 29 = 48

∴ Sum of the two consecutive terms is the next term.

8. 12, 32, 72, 152, ? 632

(1) 312 (2) 515 (3) 613 (4) 815

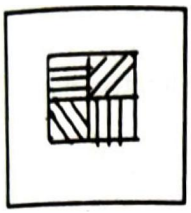
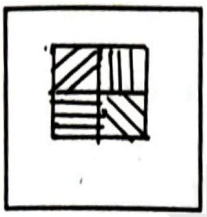
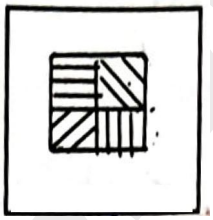
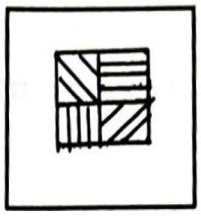
Ans. (1)

Sol. Difference is

+ 20, + 40, + 80, + 160

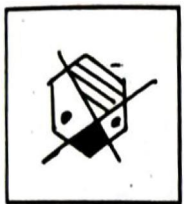
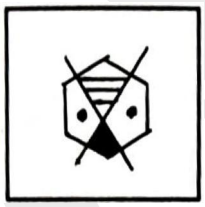
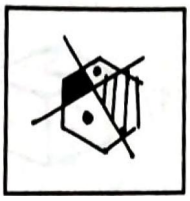
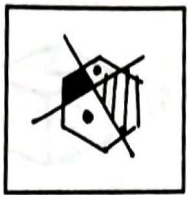
Q. 9 to 11 Direction:

Find the odd figure.

9. (1)  (2)  (3)  (4) 

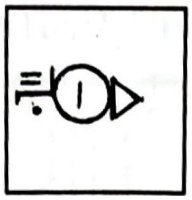
Ans. (3)

Sol. By observation

10. (1)  (2)  (3)  (4) 

Ans. (2 & 4)

Sol. By observation

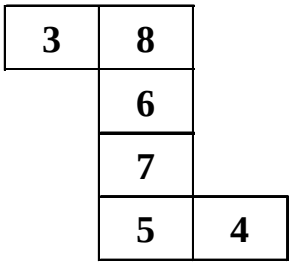
11. (1)  (2)  (3)  (4) 

Ans. (2)

Sol. By observation

Q.12 to 14 Direction:

The figure given alongside is folded on the given lines to construct a cube. Oserve the figure and answer the following questions by choosing correct alternative.



12. From the following which number will be opposite to 8?

(1) 4 (2) 5 (3) 6 (4) 7

Ans. (4)

Sol. Clearly 7 is opposite to 8.

13. From the following which number will not be adjacent to 4?

(1) 3 (2) 8 (3) 6 (4) 7

Ans. (1)

Sol. 3 is opposite to 4, so it will not be adjacent to it.

14. From the following which figure is not obtained by folding the paper to from a cube?

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

Ans. (Bonus)

Sol. 3 is opposite to 4 & not adjacent to it. But options 3 & 4 are also wrong.

15. In the following question there is a specific relationship between the first and second term. The same relationship exists between the third and fourth term. Considering the relationship select correct alternative to replace question mark:

4 : 80 :: 21 : ?

(1) 9702 (2) 8702 (3) 8820 (4) 421

Ans. (1)

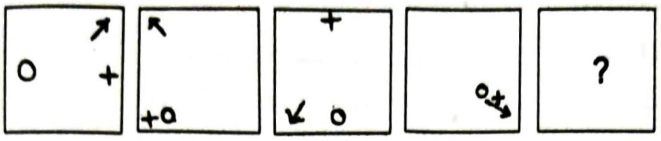
Sol. $4 : 4^2 + 4^3 : : 21 : 21^2 + 21^3$

$441 + 9261 = 9702$

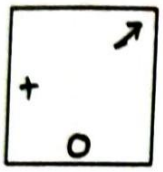
Q.16 and 17 Direction:

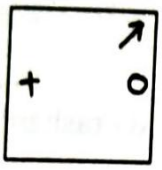
In each of the following,the question figures change in a particular order. Decide which figure from the given alternatives will replace the question mark.

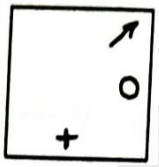
16. Question figures

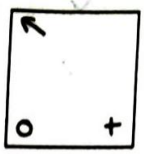


Answer figures

(1) 

(2) 

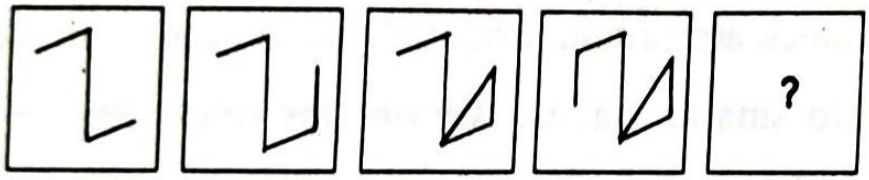
(3) 

(4) 

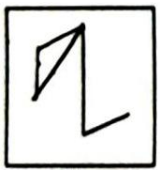
Ans. (2)

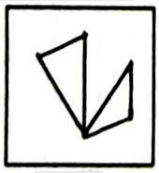
Sol. By observation

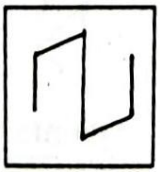
17. Question figures

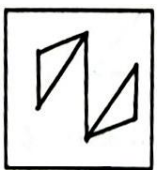


Answer figures

(1) 

(2) 

(3) 

(4) 

Ans. (4)

Sol. By observation

Q. 18 to 20 Direction:

Sushil, Vipin, Prashant, Amar are four class friends. Sushil does not like dance. Vipin likes only music and dance. Only three of them like dance and carft. Prashant likes all subjects except music. Sushil is master in drawing and music.

18. Amar like which subjects?

(1) Music and carft (2) Dance and drawing (3) Dance and carft (4) Music and drawing

Ans. (3)

Sol. Amar likes dance & craft

19. Which subject Vipin, Prashant and Amar likes?

(1) Drawing (2) Music (3) Dance (4) Carft

Ans. (3)

Sol. Vipin, prashant & amar likes dance

20. Who likes drawing?

(1) Sushil and Vipin (2) Vipin and Prashant (3) Sushil and Prashant (4) Prashant and Amar

Ans. (3)

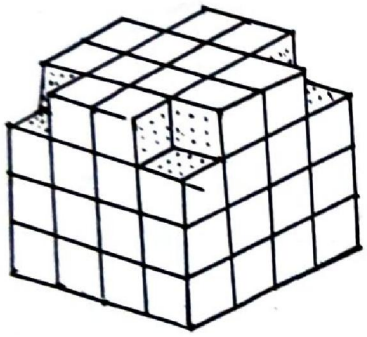
Sol. Sushil & Prashant like drawing

18 - 20

	Sushil	Amar	Vipul	Prashant
Dance	×	✓	✓	✓
Music	✓		✓	×
Drawing	✓		×	✓
Craft	✓	✓	×	✓

Q.21 to 23 Direction:

A wooden block of 4 × 4 dimensions is taken. All faces of block are painted from outside. As shown in the figure it is cut into smaller cubes. Answer the questions by studying adjoining figure.



21. How many cubes are there having at least one face painted?

(1) 64 (2) 52 (3) 48 (4) 24

Ans. (2)

Sol. At least 1 face pointed = Total small cubes – zero face painted cubes

= 60 – 8 = 52

22. If the base layer of the block would be same as the top layer then how many cubes will be in the block?

(1) 56 (2) 52 (3) 60 (4) 62

Ans. (1)

Sol. Total cubes = 60

Now base will have 12

cubes instead of 16.

so, 4 cubes len

60 – 4 = 56

23. If the base layer and top layer of block is same then at the most how many faces of the cube will be painted?

(1) 3 (2) 2 (3) 1 (4) 0

Ans. (1)

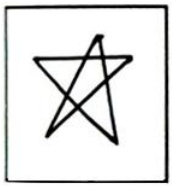
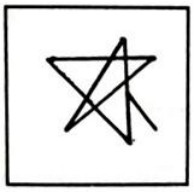
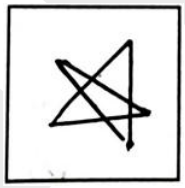
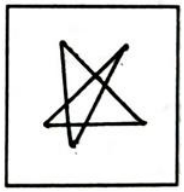
Sol. Maximum exposure will be 3.

Q.24 and 25 Direction:

Choose the mirror image from the alternatives given for the given question figures.

24. Question figure

Answer figures

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

Ans. (1)

Sol. By observation

25. Question figure

Answer figures

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

Ans. (3)

Sol. By observation

Q.26 and 27 Directions:

A rhythmic arrangement of letters is given. The missing letters appear in the same order in one of the alternative answer. Find the correct alternative.

26. p – rsqr – – rs – q – pqr

(1) qrspq (2) qrppr (3) qspps (4) qsqpr

Ans. (3)

Sol. pqrs/qrsp/rspq/spqr

27. a – cb – ac – – ab –

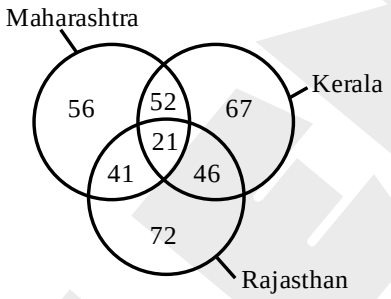
(1) bcabb (2) bcaab (3) bacbc (4) bcabc

Ans. (4)

Sol. abc/bca/cab/abc

Q.28 to 30 Directions:

The numbers in the figure show number of tourists from different states. Observe the figure and choose the answer from given alternatives for following questions.



28. How many tourists visited all three states?

(1) 119 (2) 108 (3) 21 (4) 195

Ans. (3)

Sol. Clearly mentioned in the diagram.

29. Find number of tourists visiting only two states.

(1) 93 (2) 98 (3) 87 (4) 139

Ans. (4)

Sol. Only two states = 41 + 52 + 46 = 139

30. Find number of tourists who visited Kerala and Rajasthan but not visited Maharashtra?

(1) 139 (2) 185 (3) 206 (4) 232

Ans. (2)

Sol. 72 + 46 + 67 = 185

Q.31 and 32

Directions : Find the odd term.

31. (1) ACEDB (2) HJLIK (3) TVXWU (4) PRTSQ

Ans. (2)

Sol. Consecutive letters are jumbled

32. (1) ZBX (2) VFT (3) RJO (4) SIQ

Ans. (3)

Sol. Z B X $\rightarrow$ here instead of 'Y' it's reverse order pair is written

Q.33 and 34

Directions : Which symbols will come in the order. Choose the correct alternative.

33. $\sum\theta\Delta\mu\beta,\ \theta\sum\Delta\mu\beta,\ \theta\Delta\sum\mu\beta,?$

(1) $\theta\Delta\beta\sum\mu$ (2) $\theta\Delta\mu\beta\sum$ (3) $\theta\Delta\sum\beta\mu$ (4) $\theta\Delta\mu\sum\beta$

Ans. (4)

Sol. By observation, observe the movement of the first symbol.

34. $\psi\Omega\square\bigcirc,\ \Omega\square\bigcirc\delta,\ \square\bigcirc\delta\alpha,\ ?$

(1) $\bigcirc\delta\alpha n$ (2) $\bigcirc\delta\alpha\Omega$ (3) $\bigcirc\delta\alpha\psi$ (4) $\bigcirc\delta\alpha\square$

Ans. (1)

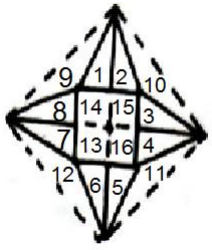
Sol. One who reaches to the left extreme vanishes. All are moving one place to the left & new symbol is introduced to the extreme right.

35. Directions : Find number of triangles in the given figure.

(1) 16 (2) 20 (3) 24 (4) 32

Ans. (3)

Sol.



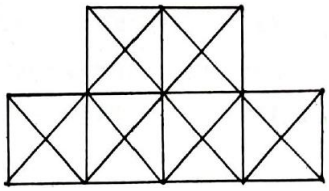
Single component $\rightarrow$ 12

Two component $\rightarrow$ (7+8) (3+4) (1+2) (5+6)

Four component $\rightarrow$ (6+7+12+13) (4+5+11+16) (1+8+9+14) (2+3+10+15)

Eight component $\rightarrow$ (1+2+3+8+9+10+14+15) (2+3+4+5+10+11+15+16) (4+5+6+7+11+12+13+16) (1+6+7+8+9+12+13+14)

36. Directions : Find total number of squares in the following figure.

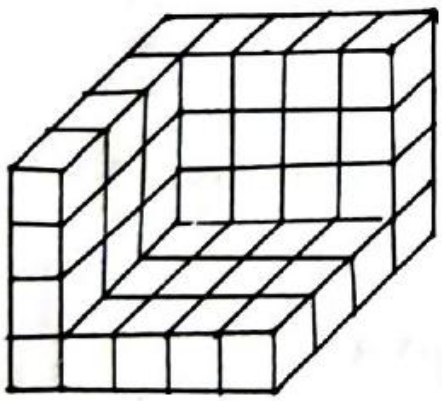


(1) 6 (2) 12 (3) 13 (4) 15

Ans. (NA)

Q.37 to 39

Directions : The following figure is made by arranging some cubes having each side 1 unit. This is painted from all sides. Observe the figure and choose correct alternative for following questions.



37. Find the number of cubes having maximum number of faces painted.

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

Ans. (3)

Sol. maximum number of faces painted = 3

38. How many cubes are used to make the arrangement as shown in the figure?

(1) 35 (2) 40 (3) 44 (4) 46

Ans. (3)

Sol. If the cuboid was complete

$= 5 \times 4 \times 4 = 80$

Removed cubes $= 4 \times 3 \times 3 = 36$

$80 - 36 = 44$ cubes

39. Find the number of cubes having no face painted.

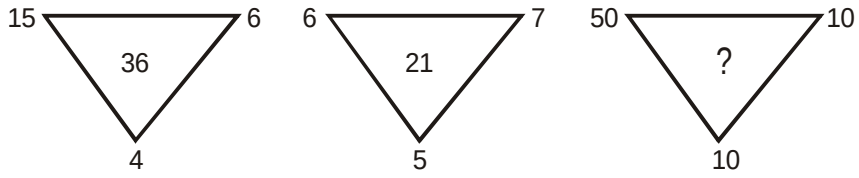
(1) 0 (2) 1 (3) 2 (4) 3

Ans. (1)

Sol. Clearly all cubes in the figure are exposed.

Q.40 and 41

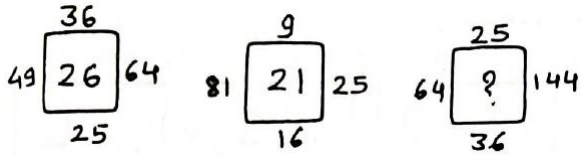
Directions : In the following figure numbers are written with a specific rule. Find the rule and decide which alternative will be in place of question mark.

40. 

(1) 140 (2) 220 (3) 320 (4) 500

Ans. (4)

Sol. $\frac{15\times 6\times 4}{10} = 36$

41. 

(1) 19 (2) 23 (3) 31 (4) 25

Ans. (3)

Sol. Sum of the square root of the outer numbers is the number in the middle.

Q.42 to 44

Directions : In the following questions there is a specific relation between first and second term. The same relationship exists between third and fourth term, which will replace the question mark. Select the correct alternative from the given alternatives.

42. EJOT : VQLG : : BGLQ : ?

(1) DINS (2) RMHC (3) SNID (4) EJOT

Ans. (3)

Sol. Difference of the corresponding letters is + 17, + 7, – 3, + 3

43. FJUL : BOQQ : : LHRX : ?

(1) BKPR (2) MNCC (3) HRYY (4) HMNC

Ans. (4)

Sol. Difference of the corresponding letters is – 4, + 5, – 4, + 5

44. QPRS : TUWV : : JIKL : ?

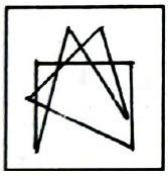
(1) MNOP (2) NMOP (3) MNPO (4) NMPO

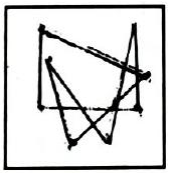
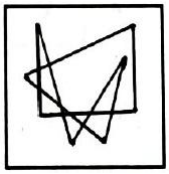
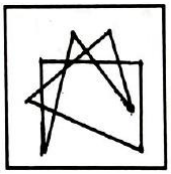
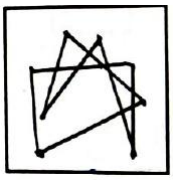
Ans. (3)

Sol. Difference of the corresponding letters is + 3, + 5, + 5, + 3

Q.45 and 46

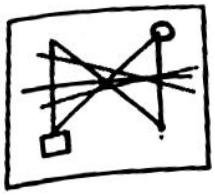
Directions : Choose the mirror image from the alternatives given for the given question figures.

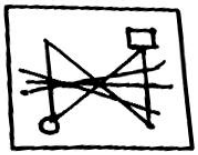
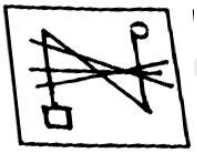
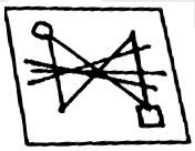
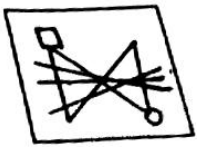
45. 

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

Ans. (4)

Sol. By observation

46. 

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

Ans. (3)

Sol. By observation

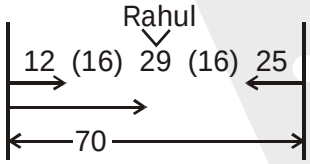
Q.47 and 48

Directions : In a row Pradyuman is twelfth from front and Sarvesh is Twentyfifth from behind. Rahul is exactly at the centre place between Pradyuman and Sarvesh. There are 70 persons in the row then

47. Rahul is standing at which place from front?

(1) 29 (2) 33 (3) 17 (4) 42

Ans. (1)

Sol. 

$= 70 - (12 + 25) = 33$

48. Rahul is at which place from behind?

(1) 29 (2) 42 (3) 33 (4) 17

Ans. (2)

Sol. $29 + x - 1 = 70$

$x = 42$

Q.49 to 52

Directions : In each of the following questions write which correct term in sequence replaces the question mark?

49. CD, HI, MN, ?

(1) QS (2) OP (3) RS (4) PQ

Ans. (3)

Sol. Difference between the corresponding letters are constant.

50. RD, PG, MK, IN, ?

(1) ER (2) DR (3) CQ (4) DQ

Ans. (2)

Sol. Observe the difference between the corresponding letters of each term.

51. BM26, EN70, HO120, KP176, ?

(1) NQ250 (2) NP224 (3) MQ221 (4) NQ238

Ans. (4)

Sol. B + 3 = E, E + 3 = H, H + 3 = K, K + 3 = N

M + 1 = N, N + 1 = O, O + 1 = P, P + 1 = Q

26 + 44 = 70, 70 + 50 = 120, 120 + 56 = 176, 176 + 62 = 238

52. T23C, QG24, 26NL, KP27, ?

(1) 29GV (2) 29HU (3) 27GT (4) 28HT

Ans. (2)

Sol. T + C = 23 [T = 20, C = 3]

It is same with the other terms.

If we compare the corresponding letters of each term

T, Q, N, K [Difference is –3]

C, G, L, P [Difference is +4, +5, +4, +5]

Q.53 to 55

Directions : Observe the following pyramid and decide which alternative will be in place of question mark in each of the following questions.

j

h i

g f e

a b c d

z y x w v

p q r s t u

o n m l k j i

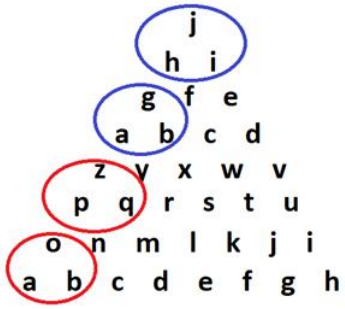
a b c d e f g h

53. oab : zpq : : gab : ?

(1) mde (2) bxy (3) jhi (4) tjk

Ans. (3)

Sol.

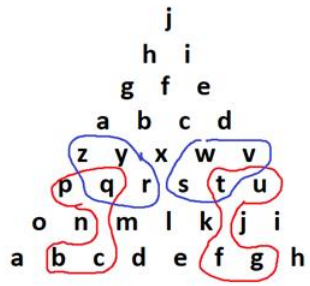


54. pqcb : utfg : : yzqr : ?

(1) abcd (2) lscb (3) ekig (4) wvts

Ans. (4)

Sol.

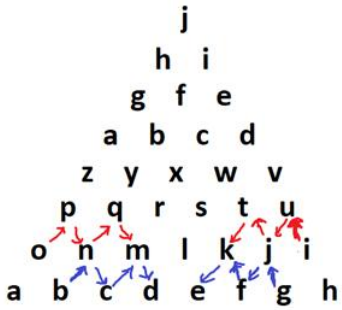


55. opnqm : ijtk : : ? : gjfke

(1) bncmd (2) gbfce (3) jfxle (4) ybxsr

Ans. (Bonus)

Sol.

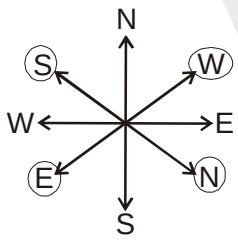


56. A map was so placed that north-west becomes south then what will east become?

(1) South-west (2) North (3) North-east (4) West

Ans. (1)

Sol. Given

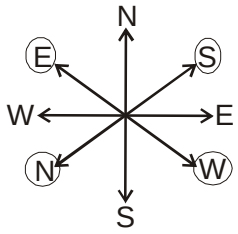


57. A map was so placed that south-east becomes west then what will north-east become?

(1) South-west (2) West (3) North-west (4) South

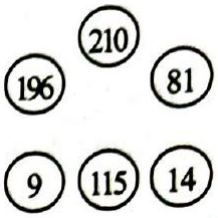
Ans. (4)

Sol.



Q.58 to 60

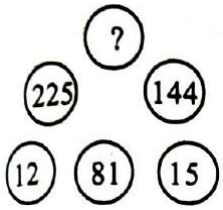
Directions : There is a certain relationship between the numbers that are given in the following figure. According to that relationship which alternative will replace the question mark?



$(9 + 14)\ (14 - 9) = 115$

$196 + 14 = 210$

58.

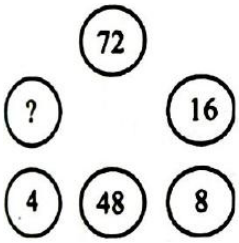


(1) 75 (2) 240 (3) 360 (4) 400

Ans. (2)

Sol. 225 + 15 = 240

59.

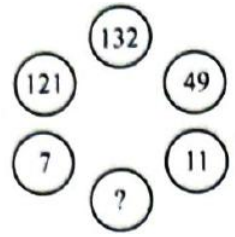


(1) 32 (2) 40 (3) 64 (4) 80

Ans. (3)

Sol. ? + 8 = 72

? = 64

60. 

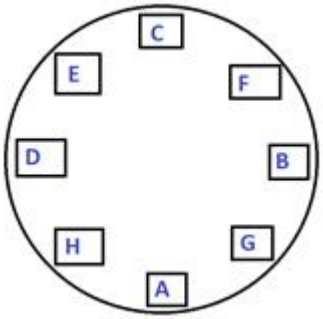
(1) 114 (2) 83 (3) 72 (4) 60

Ans. (3)

Sol. ? = (11 + 7) (11 – 7) = 72

Q.61 to63

Directions: A, B, C, D, E, F, G, H eight friends are sitting around the circular table. C is sitting in front of A and H is sitting at the first position to the left of A. F is in front of H. Whereas D is at the first position to right of E and C is at the first position to left of E. A is between G and H. choose the correct alternatives for the questions given below.



61. Who is sitting between B and C ?

(1) D (2) G (3) F (4) H

Ans. (3)

Sol. F is sitting between B and C

62. Who is sitting between A and B?

(1) D (2) G (3) E (4) F

Ans. (2)

Sol. G is sitting between A and B

63. If B and D would have interchanged the places then who will be sitting at the first position to the left of B?

(1) G (2) C (3) F (4) E

Ans. (4)

Sol. If B and D would have interchanged the places, E will be sitting at the first position to the left of B

64. If according to mathematical code language $8 \div 2 = 70$, $9 \div 3 = 87$, $10 \div 4 = 106$, then $7 \div 5 = ?$

(1) 65 (2) 58 (3) 51 (4) 63

Ans. (3)

Sol. $8 \div 2 = 70 \Rightarrow 8^2 + (8-2) = 70$

$9 \div 3 = 87 \Rightarrow 9^2 + (9-3) = 87$

$10 \div 4 = 106 \Rightarrow 10^2 + (10-4) = 106$

$\therefore \quad 7 \div 5 \Rightarrow 7^2 + (7-5) = 51$

65. If according to mathematical code $9+2 = 36$, $8+3 = 72$, $7+4 = 112$ then $6+5 = ?$

(1) 84 (2) 130 (3) 75 (4) 150

Ans. (4)

Sol. $9 + 2 = 36 \Rightarrow 9 \times 2^2 = 36$

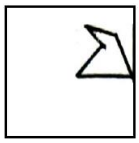
$8 + 3 = 72 \Rightarrow 8 \times 3^2 = 72$

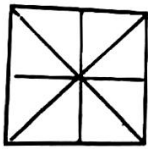
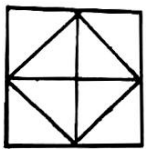
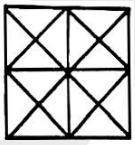
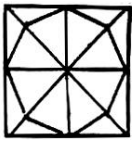
$7 + 4 = 112 \Rightarrow 7 \times 4^2 = 112$

$\therefore \quad 6 + 5 = 6 \times 5^2 = 150$

Q.66 to67

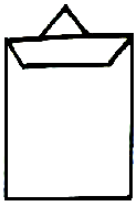
Direction : A square shaped paper is folded as shown in the figure. The paper when folded will look like as shown in one of the alternatives. Select the correct alternative.

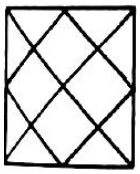
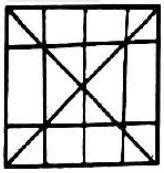
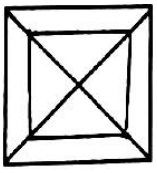
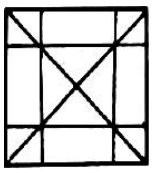
66. 

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

Ans. (4)

Sol. By observation

67. 

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

Ans. (3)

Sol. By observation

68. Ten years before ratio of ages of Ram and Shyam was 1: 7, ten years after ratio of their ages is 1: 3. Find present age of Ram.

(1) 10 years (2) 20 years (3) 30 years (4) 70 years

Ans. (2)

69. From the above information what will be the age of Shyam after 10 years?

(1) 70 years (2) 80 years (3) 90 years (4) 30 years

Ans. (3)

Sol. 68-69

Let the present age of Ram be x and the present age of Shyam be y.

$\therefore$ By 1st condition,

$$\frac{x-10}{y-10}=\frac{1}{7}$$

$\therefore$ $7x - 70 = y - 10$

$\therefore$ $7x - y = 60$ ....(I)

By 2nd condition,

$$\frac{x+10}{y+10}=\frac{1}{3}$$

$\therefore$ $3x + 30 = y + 10$

$\therefore$ $3x - y = -20$ ....(II)

(I) – (II),

$$\begin{array}{r} 7x - y = 60 \\ 3x - y = -20 \\ - \quad + \quad + \\ \hline 4x = 80 \end{array}$$

$x = 20$

By (I)

$7 \times 20 - y = 60$

$140 - 60 = y$

$\therefore$ $y = 80$

after 10 years, Shyam's age will be 90 years

Q.70 and 71

Directions: In the following questions the numbers outside the bracket are related to number inside the bracket in a specific manner. From the given alternatives find the right number which matches and will replace the question mark.

70. 78 (20) 82

37 (12) 59

45 (?) 91

(1) 13 (2) 17 (3) 19 (4) 23

Ans. (2)

Sol. $\frac{78+82}{8}=20\ ;\ \frac{37+59}{8}=12$

71. 95 (53) 87

152 (82) 58

76 (?) 174

(1) 46 (2) 93 (3) 89 (4) 78

Ans. (1)

Sol. $\frac{95}{19}=5,\frac{87}{29}=3\,;\text{combine}'5\&3'\Rightarrow 53$

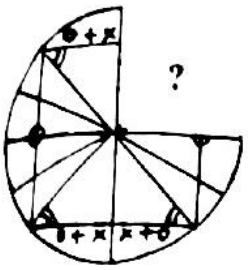
Similarly

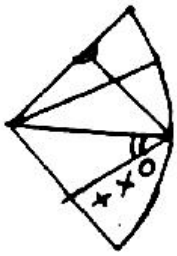
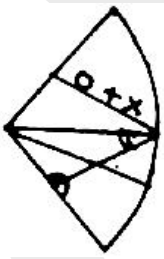
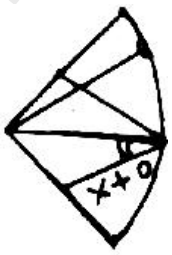
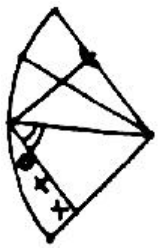
$\frac{152}{19}=8,\frac{58}{29}=2\,;\text{combine}'8\&2'\Rightarrow 82$

$\frac{76}{19}=4,\frac{174}{29}=6\,;\text{combine}'4\&6'\Rightarrow 46$

Q.72 and 73

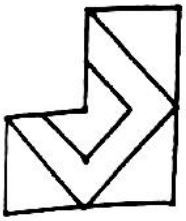
Directions : Select the correct alternatives which can complete the figures.

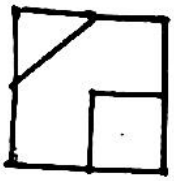
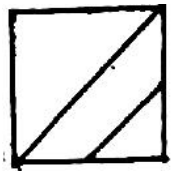
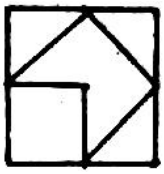
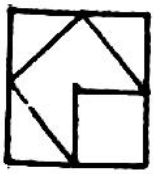
72. 

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

Ans. (4)

Sol. By observation

73. 

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

Ans. (2)

Sol. By observation

Q. 74 to 76

Directions : In the following questions specific group of letters are given. From the given alternative, find out the right letters which matches the given group.

74. GECA ZXVT SQOM

(1) YWUT (2) VIRQ (3) MKIH (4) LJHF

Ans. (4)

Sol. G E C A Z X V T S Q O M

$\Rightarrow$ G – 2 = E ; E – 2 = C ; C – 2 = A

Z – 2 = X ; X – 2 = V ; V – 2 = T

S – 2 = Q ; Q – 2 = O ; O – 2 = M

By option, option 4

L J H F $\Rightarrow$ L – 2 = J ; J – 2 = H ; H – 2 = F

75. BEIN EHLQ ILPU

(1) NQUZ (2) HKOS (3) LOSY (4) JMQT

Ans. (1)

Sol. B E I N $\longrightarrow$ B + 3 = E ; E + 4 = I ; I + 5 = N

E H L Q $\longrightarrow$ E + 3 = H ; H + 4 = L ; L + 5 = Q

I L P U $\longrightarrow$ I + 3 = L ; L + 4 = P ; P + 5 = U

By options, option 1

N Q U Z $\Rightarrow$ N + 3 = Q ; Q + 4 = U ; U + 5 = Z

76. BYEV DWHS IRLO

(1) FUKO (2) CXJP (3) GTDW (4) AZCW

Ans. (3)

Sol. BYEV $\Rightarrow$ B + Y = 27 ; E + V = 27

DWHS $\Rightarrow$ D + W = 27 ; H + S = 27

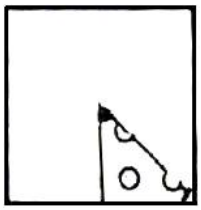
IRLO $\Rightarrow$ I + R = 27 ; L + O = 27

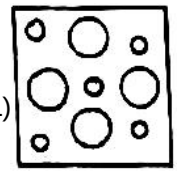
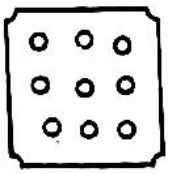
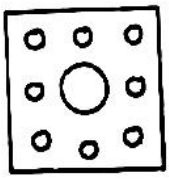
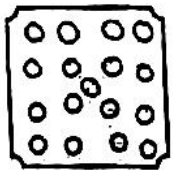
By option,

GTDW $\Rightarrow$ G + T = 27 ; D + W = 27

Q. 77 and 78

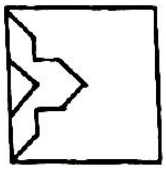
Directions: A square piece of paper ¡s folded and cut at specific spots as shown in the figures. The paper when unfolded will look-like as shown in one of the alternatives. Select the correct alternative.

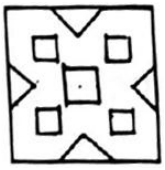
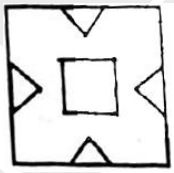
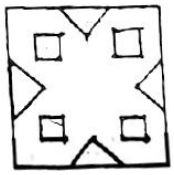
77. 

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

Ans. (4)

Sol. By observation

78. 

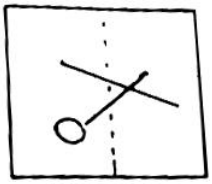
(1)  (2)  (3)  (4) 

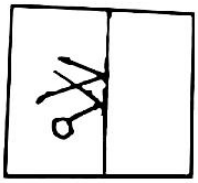
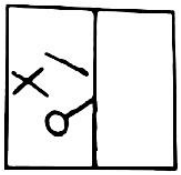
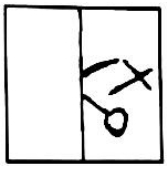
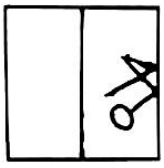
Ans. (4)

Sol. By observation

Q.79 and 80

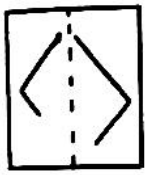
Directions : In the figure given below a transparent square shaped paper is folded along the dotted lines, which figure will be obtained ? Find the figure from the alternative figures given.

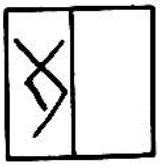
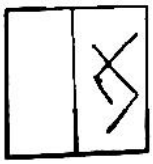
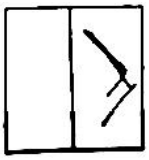
79. 

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

Ans. (1)

Sol. By observation

80. 

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

Ans. (4)

Sol. By observation

Q.81 to 83

Directions : In a certain code language the word BASIC has been written in four different code languages. Understanding the code, find out the correct code language for the word given in each of the following questions.

Word Code language

BASIC = (1) EDVLF

(2) CISAB

(3) YASIZ

(4) BZRHC

81. EARTH = BARTE

Ans. (3)

Sol. By comparing with the given coding

82. CLOUD = CKNTD

Ans. (4)

Sol. By comparing with the given coding

83. LEARN = OHDUQ

Ans. (1)

Sol. By comparing with the given coding

84. In a certain code langauge if

$@ \times ✡ = 45, ◡ \times ⚐ = 48,$

$⚐ \times ✡ = 40$ and $\# \times @ = 27$ then find the value of # ?

(1) 5 (2) 6 (3) 3 (4) 9

Ans. (3)

Sol. $\underset{9}{@} \times \underset{5}{✡} = 45, \underset{6}{◡} \times \underset{8}{⚐} = 48, \underset{8}{⚐} \times \underset{5}{✡} = 40$ and $\underset{③}{\#} \times \underset{9}{@} = 27$

85. In a certain code langauge if || means 4, |||||| means 12, @ means ×, ⊙ means ÷, # means + and $ means – is used

then find |||| @ |||||| $ |||| ⊙ || # |||||| = ?

(1) 104 (2) 106 (3) 102 (4) 30

Ans. (2)

Sol. $8 \times 12 - 8 \div 4 + 12 = 106$

Q. 86 to 88

Direction: In the following questions specific group of numbers are given, From the given alternatives, find out the right number which matches the given group.

86. 416 749 525

(1) 982 (2) 864 (3) 637 (4) 319

Ans. (2)

Sol. $\underset{\downarrow}{4}\underset{\downarrow}{16}$ $\underset{\downarrow}{7}\underset{\downarrow}{49}$ $\underset{\downarrow}{5}\underset{\downarrow}{25}$

$4\ 4^2$ $7\ 7^2$ $5\ 5^2$

By option; option (2) 864

87. 294 648 448

(1) 84 (2) 94 (3) 100 (4) 194

Ans. (3)

Sol. $294 \Rightarrow 6 \times 7^2$

$648 \Rightarrow 8 \times 9^2$

$448 \Rightarrow 7 \times 8^2$

By option, option 3 : $100 = 4 \times 5^2$

88. $3\frac{1}{3}$ 3.2 3.25 $3\frac{2}{3}$

(1) 3.5 (2) 5 (3) 4.2 (4) $\frac{13}{3}$

Ans. (2)

Sol. $= \frac{10}{3} \quad \frac{16}{5} \quad \frac{13}{4} \quad \frac{11}{3}$

$= \frac{20}{6} \quad \frac{16}{5} \quad \frac{13}{4} \quad \frac{11}{3}$

Numerator: 20 16 13 11 **10**

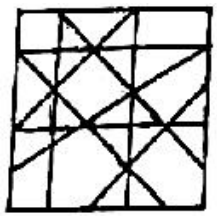
-4 -3 -2 -1

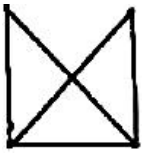
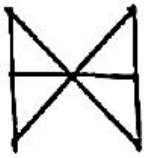
Denominators: 6, 5, 4, 3, **2**

$\therefore$ **Required $\Rightarrow \frac{10}{2} = 5$**

Q.89 and 90

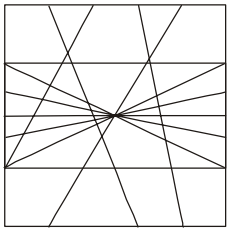
Directions: In the given questions a complex figure is given. Find out which of the simple figures given ¡n the alternatives is hidden in the complex figure.

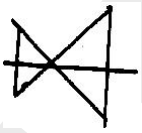
89. 

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

Ans. (3)

Sol. By observation

90. 

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

Ans. (4)

Sol. By observation

91. In the following question letters and numbers are written with a specific rule in horizontal rows Find the rule and decide which will be ¡n place of question mark.

JN	28	27	GP
CE	12	45	TU
LR	?	?	MS

(1) 30, 41 (2) 30, 32 (3) 34, 36 (4) 35, 35

Ans. (3)

Sol. JN 28 27 GP

J+N+4 G+P+4

CE 12 45 TU

C+E+4 T+U+4

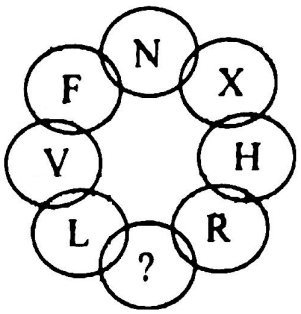
L R ? ? M S

L+R+4 M+S+4

= 12+18+4 = 13+19+4

= 34 = 36

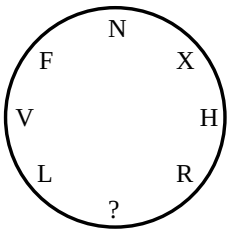
92. Write the correct alternative to replace question mark.



(1) C (2) B (3) Z (4) A

Ans. (2)

Sol.



Sum of opposite:

F + R = 6 + 18 = $\boxed{24}$

V + H = 22 + 8 = $\boxed{30}$

L + X = 12 + 24 = $\boxed{36}$

$\therefore$ N + ? = 14 + ? = 42

$\therefore$? = 28

Since 28 is more than 26

$\therefore$? = 28 - 26

$\therefore$? = 2 $\Rightarrow$ $\boxed{? = B}$

Q. 93 and 94

Directions: In the following table the digits are assigned with certain symbols. Observe them carefully and choose the correct alternative to answer the questions.

Digits	0	1	2	3	4	5	6	7	8	9
Symbols	⊕	卐	+	∪	▽	#	⊗	◡	△	$

93. How will you write the number 635104?

(1) ⊕▽⊕∪#卐 (2) ⊗∪#卐⊕▽

(3) ⊕∪△#卐⊗ (4) ⊗△∪#卐⊕

Ans. (2)

Sol. By comparing

94. Which number will be expressed by $#卐△◡▽ ?

(1) 951478 (2) 958174 (3) 951847 (4) 951874

Ans. (4)

Sol. By comparing

Q.95 and 96

Directions : In the following questions word letters are given in column I and are coded in column II. But they are not arranged according to the order of word letters in column I. Find the code language and choose the correct alternative to answer the questions.

Column I	Column II
T E A R	8 6 2 3
P U R N	5 6 4 1
T A L K	9 8 7 2
N E T	2 3 5

95. What is the code for the word PREAK ?

(1) 13689 (2) 16389 (3) 16839 (4) 16489

Ans. (2)

Sol. T E A R 8 6 2 3

P U R N 5 6 4 1

T A L K 9 8 7 1

N E T 2 3 5

By deciphering, we get,

N=5; T=2; E=3; A=8; R=6

96. 542687 code is for which word?

(1) NATURE (2) NATEUR (3) NUTRAL (4) NURTAL

Ans. (3)

Sol. T E A R 8 6 2 3

P U R N 5 6 4 1

T A L K 9 8 7 1

N E T 2 3 5

By deciphering, we get,

N=5; T=2; E=3; A=8; R=6

97. Observe the following code language and choose the correct alternative to answer the questions.

Letters	Z	A	W	O	D	I	Y	L	P	C
Digits	0	1	2	3	4	5	6	7	8	9

What is the code for the word ZODIAC ?

(1) 034159 (2) 034519 (3) 043951 (4) 093415

Ans. (2)

Sol. By given data, answer will be option 2

Q.98 to 100

Direactions : Observe the pyramid of number and choose the correct alternative which will replace question mark.

1

2 3 4

5 6 7 8 9

10 11 12 13 14 15 16

17 18 19 20 21 22 23 24 25

26 27 28 29 30 31 32 33 34 35 36

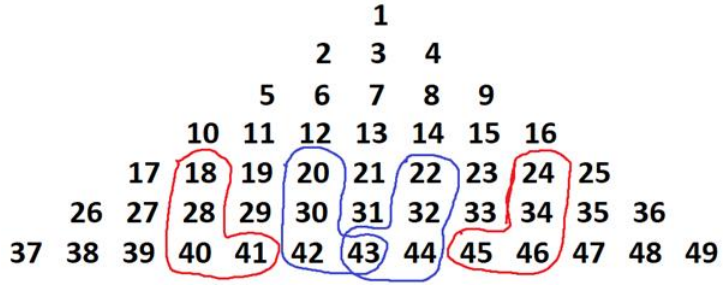
37 38 39 40 41 42 43 44 45 46 47 48 49

98. 18284041 : 24344645 : : 20304243 : ?

(1) 22324443 (2) 21314344 (3) 22324445 (4) 24344647

Ans. (1)

Sol.

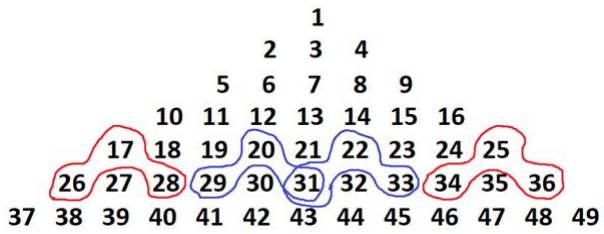


99. 261728 : ? : : 292031 : 332231

(1) 281930 (2) 302132 (3) 362534 (4) 352433

Ans. (3)

Sol.



100. 37261718 : 49362524 : : 39271710 : ?

(1) 39281920 (2) 47352516 (3) 47342322 (4) 46342416

Ans. (2)

Sol.