

DEPARTMENT OF SCHOOL EDUCATION – TIRUVANNAMALAI DISTRICT

National Means-cum-Merit Scholarship (NMMS) EXAM-2023-24

PART-I MENTAL ABILITY TEST (MAT)

(Model Exam- 6 For students of class VIII)

Time: 90 min.

Max marks: 90

Direction: (Questions 1 to 7)

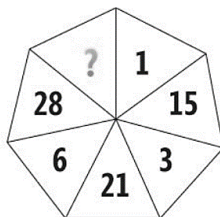
In each question, the numbers/letters are arranged based on some pattern or principle. Choose the correct answer for the term marked by the symbol (?)

1. **2, 4, 12, ?, 240**
(1) 24 (2) 48 (3) 36 (4) 60
2. **14, 14, 21, 42, 105, ?**
(1) 215 (2) 305 (3) 285 (4) 315
3. **4, 5, 9, 18, ?, 59**
(1) 36 (2) 34 (3) 32 (4) 38
4. **3, 9, 27, 4, 16, ?, 5, 25, 125**
(1) 64 (2) 36 (3) 49 (4) 81
5. **83, 92, 85, 90, ?, 88**
(1) 85 (2) 87 (3) 89 (4) 91
6. **ATTRIBUTION, TTRIBUTIO, RIBUTIO, IBUTI, ?**
(1) IBU (2) UT (3) BUT (4) UTI
7. **a _ b b a a a _ b b a a a _ _ b b b**
(1) abab (2) baab (3) aaab (4) abba

Direction: (Question No: 8 - 12)

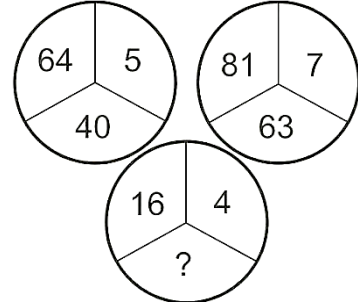
In each of the following figures, numbers are written according to some patterns. One number is missing. Find the missing number that replaces the question mark (?).

8.



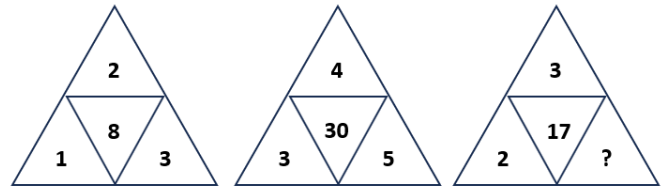
- (1) 9 (2) 10 (3) 12 (4) 18

9.



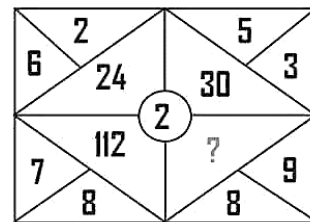
- (1) 64 (2) 16 (3) 49 (4) 81

10.



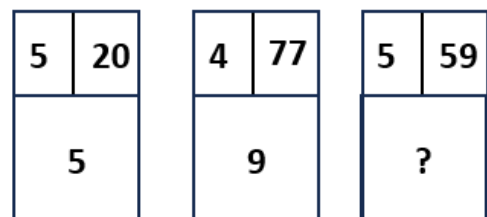
- (1) 10 (2) 4 (3) 11 (4) 6

11.



- (1) 34 (2) 19 (3) 70 (4) 144

12.



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

Direction: (Question No: 13 - 17)

Each question consists of four groups. One group is different from the other three in some way. Find out the different group.

13. (1) Moon (2) Earth (3) Mars (4) Jupiter
14. (1) SUFFER (2) MATTER
(3) POLICE (4) ATTIRE
15. (1) HJMQ (2) PRTX (3) MORV (4) IKNR
16. (1) 25,5,5 (2) 51,3,17
(3) 96,6,16 (4) 75,5,25
17. (1) June (2) July (3) August (4) December

Direction: (Question No: 18 - 22)

In the following questions, there are three words. The first two words to the left of (::) are related in some way. The same relationship holds between the third word to the right of the sign (::) and of the responses (1), (2), (3) or (4). Identify the correct related word.

18. CHALK : BLACKBOARD :: ?
(1) Door : Handle (2) Table : Chair
(3) Ink : Paper (4) Type : Paint
19. ? : 6 :: billion : million
(1) 6 (2) 9 (3) 10 (4) 100
20. Driving : Bus :: Flying
(1) Air (2) Kite
(3) Bird (4) Aeroplane
21. BCA : EFD :: HIG : ?
(1) KJL (2) KLJ (3) JKL (4) JLK
22. 12M : U20 :: ? : P15
(1) H7 (2) 7H (3) 9H (4) H9

23. In a certain language, SUPERMAN is coded as TTQDSLBM. How is SPIDERMAN coded in that language ?
(1) TOJCFQNZO (2) TOJCFSLBM
(3) TOJCFONZO (4) TOJCOSLBM
24. If $7\Omega 6 = 84$, $8\Omega 7 = 112$ and $8\Omega 4 = 64$, then find the value of $3\Omega 4 = ?$ to
(1) 24 (2) 12
(3) 4 (4) 20
25. In a certain code language, 'LAMP' is coded as '2422632'. How will 'FORK' be coded as in that language?
(1) 12302624 (2) 12303622
(3) 12303424 (4) 1230342
26. If in a code language LEAP is written as MFBQ, then how would JUMP be written in that same language?
(1) KLNQ (2) KRLQ
(3) KMNQ (4) KVNQ
27. If "A" means "subtraction", "B" means "division", "C" means "addition" and "D" means "multiplication", then
 $294 \text{ B } 7 \text{ A } 40 \text{ C } 33 \text{ D } 11 = ?$
(1) 369 (2) 365
(3) 368 (4) 363
28. In a certain code language, "NOTES" is written as "141520519" and "MAKAR" is written as "131111118". How is "LOFTS" written in that code language?
(1) 206191316 (2) 121562019
(3) 12150219 (4) 1515121119

29. In a certain code language "nce po tam" means "boys are studying", "me tam sam" means "grapes are sour" and "tam po me" means "boys are grapes". which of the following represents "sour" in that code language?

- (1) tam (2) me (3) sam (4) nec

30. If SON = 678 and TEN = 948, then STONE =?

- (1) 69797 (2) 69784
(3) 68784 (4) 69764

31. Which can not be formed using the letters of the given word ?

CONCEPTUALIZATION

- (1) Actual (2) Petrol
(3) Total (4) Petal

32. Which of the following terms follows the trend of the given list?

XxXXXXX, XXxXXXX, XXXxXXX,
XXXXxXX, XXXXXxX, _____.

- (1) xXXXXXX (2) XxXXXXX
(3) XXXXXXx (4) XXxXXXX

33. In the following question, a word has been given followed by four other words are of which can be formed by using the letters of the given word. Find that word. **DEMOCRACY**

- (1) MERCY (2) DEMON
(3) MICRO (4) SECRECY

34. Arrange the given words in the sequence in which they occur in the dictionary.

1. Herbivorous 2. Harmony 3. House
4. Honour 5. Helm
(1) 1,2,5,4,3 (2) 2,5,1,4,3

- (3) 2,1,5,3,4 (4) 1,2,3,5,4

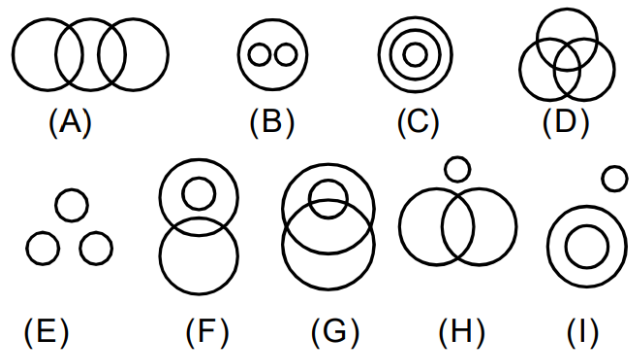
35. From the given words, select the word which cannot be formed using the letters of the given word.

- 1.College 2.School 3.Employment 4.Salary
5. Child

- (1) 5,2,3,4,1 (2) 5,2,1,3,4
(3) 5,1,2,3,4 (4) 5,2,1,4,3

Direction: (Question No. 36 - 40)

There are given seven logical diagrams (A,B,C,D,E,F,G,H and I). Select one which



best illustrates the relationship among three classes in each of the following question.

36. Fraction, Proper fraction, Improper fraction

- (1) B (2) A (3) C (4) E

37. Females, Lecturers, Engineers

- (1) F (2) D (3) A (4) C

38. Male, Female, Doctors

- (1) A (2) D (3) G (4) B

39. Mammals, Cow, Birds

- (1) F (2) D (3) C (4) I

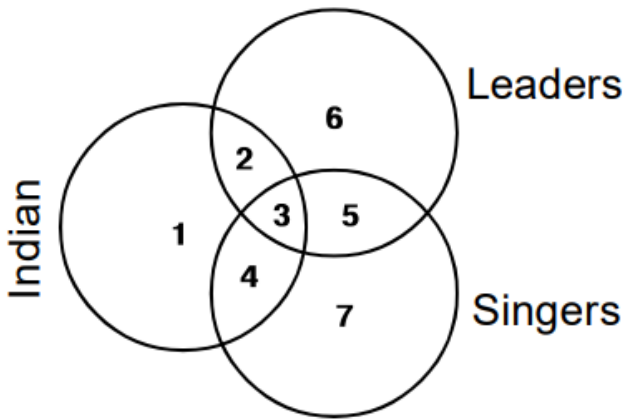
40. Polygons, Quadrilaterals, Squares

- (1) C (2) B (3) H (4) I

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Direction: (Question No. 41 to 45)

Study the diagram given below and answer each other following questions



41. Which region denotes Indian leaders who are not singers?
 (1) 2 (2) 3 (3) 4 (4) 5
42. Which region represents Indian leaders who are Singers ?
 1) 2 2) 3 3) 4 4) 5
43. Which region represents who are neither Singers nor Indians?
 1) 2 2) 3 3) 6 4) 7
44. Which region represents Indians, Singers who are not leaders?
 1) 1 2) 2 3) 3 4) 4
45. Which region represents Singers who are neither Indians nor leaders ?
 1) 2 2) 4 3) 6 4) 7

46. If '+' means subtraction, '÷' means addition, '<' means multiplication and '>' means division, then find the value of the given statement, The value of $9 \div 7 < 8 > (4 > 2) + 5$ will be
 (1) 32 (2) 18 (3) 16 (4) 11

47. If "K" denotes "multiplied by", "M" denotes "subtracted from", "J" denotes "added to" and "L" denotes "divided by", then $44 M 24 K 56 L 14 J 60 = ?$

(1) 16 (2) 72 (3) 8 (4) 40

48. In the following question, by using which mathematical operator will the expression become correct? $18 ? 6 ? 9 ? 27$

(1) x, ÷ and = (2) ÷, x and =
 (3) x, + and = (4) +, - and =

49. A, B, C,D and E are standing in a row. D is the immediate neighbor of A and E. B is at the right of E and C is in the extreme right. Who is fourth to the left of C?

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

50. In a certain code 'Black' means Orange', 'Orange' means Violet', 'Violet' means 'Green', 'Green' means 'White' , 'White', means 'Yellow' and 'Yellow' means 'Sky blue', what is the colour of coal ?

(1) Orange (2) Sky Blue (3) Violet (4) Yellow

51. A family consists of six members P, Q, R, X, Y and Z. Q is the son of R but R is not mother of Q. P and R are a married couple. Y is the brother of R. X is the daughter of P. Z is the brother of P. How many children does P have ?

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

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52. Pointing to a photograph, a man said, "I have no brother or sister but that man's father is my father's son." Whose photograph was it?

- (A) His uncle's (B) His nephew's
(C) His son's (D) His Cousin's.

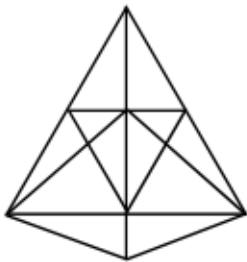
53. In a Class, among the passed students in Half-Yearly Exam, Vijay ranks 14th from the top and 30th from the bottom. In that exam, 15 students got failed. How many students wrote the examination?

- (1) 57 (2) 58 (3) 56 (4) 55

54. Two persons are sitting back to back. If the first persons face towards the south. In which direction will be the left hand of the second person?

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

55. Find the number of **Triangles** in the following figure



- (1) 35 (2) 22
(3) 12 (4) 32

56. If South East is called 'East' , North West is called 'West', South West is called 'South' and so on. What will North be called ?

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

57. The alphabet in the English alphabetical series are written. Then, If the first half of the alphabetical series is written in reverse order which will be the 5th letter to the left of 13th letter from your right?

- (1) S (2) E (3) F (4) D

58. A monkey is trying to reach the top of a pole which is 30 mtrs high from the ground. It is climbing every 4 mtrs it slips down 2 mtrs. how many attempts will it take to reach the top of the pole?

- (1) 14 (2) 15 (3) 16 (4) 18

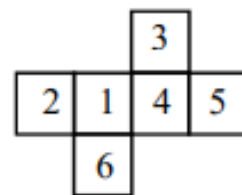
59. Ratio to Karthik's age and Rajesh's age is equal to 3 : 2. If the difference of their age is 12. The age of Karthik is?

- (1) 23 years (2) 36 years
(3) 34 years (4) 35 years

60. How many pairs of successive numbers have a difference of 3 in the following number sequence? 8 5 1 7 6 3 4 8 5 9 7 4 1 9 6

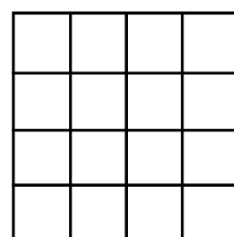
- (1) 4 (2) 4 (3) 5 (4) 6

61. A sheet of paper as shown in figure is folded so as to form a cube. By identifying the faces, the side opposite to 2 is



- (1) 6 (2) 4 (3) 1 (4) 3

62. How many squares are there in this figure ?



- (1) 17 (2) 34 (3) 30 (4) 28

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63. The sum of three consecutive multiples of 3 is 72. What is the second largest number ?

- (1) 24 (2) 27 (3) 21 (4) 42

64. If the day before yesterday is a Thursday, What day is the day after tomorrow?

- (1) Monday (2) Sunday
(3) Wednesday (4) Tuesday

65. There are five books of different thickness. A is thicker than C and B is thicker than D. E is not as thick as B, but is thicker than C. D is not as thick as C. Which is the thinnest book?

- (1) E (2) D
(3) B (4) C

Direction: (Question Number 66 - 69)

There are six persons A, B, C, D, E and F. C is the sister of F. B is the brother of E's husband. D is the father of A and grand father of F. There are two fathers, three brothers and a mother in group.

66. The Female members of the group are

- 1) E,A 2) E,F 3) F,D 4) E,C

67. The fathers present in the Group are

- 1) A,F 2) A,B 3) A,D 4) A,E

68. How many male members are there in the group?

- 1) 2 2) 3 3) 4 5) 5

69. Which of the following is a group of brothers?

- 1) ABF 2) ABD 3) BFC 4) BDF

70. Five men are standing in a row. B is on the left of C. D is on the right of E. If A is on the left of B. Which man is in the centre ?

- (1) D (2) C (3) E (4) A

Direction: (Qn No: 71 - 72)

Sangeetha, Nirmala and Geetha like Rose flower. Except Saritha all like Jasmine. Only Radha and Geetha like Sun flower. Except Sangeetha and Radha other like Lotus

71. Which flower Nirmala does not like?

- (1) Rose (2) Lotus
(3) Sun flower (4) Jasmine

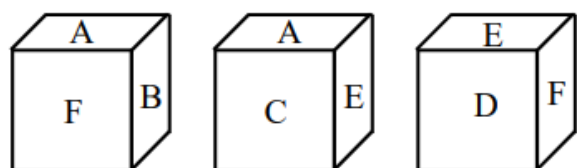
72. Name the flower which Sangeetha likes but not Radha?

- (1) Jasmine (2) Rose
(3) Sun flower (4) Lotus

73. A bird shooter was asked how many birds he had in the bag. He replied that **there were all sparrows but six, all pigeons but six, and all ducks but six.** How many birds had he in all?

- (1) 9 (2) 18 (3) 27 (4) 36

74. The Six faces of dice have been marked as A,B,C,D,E and F respectively. The dice is rolled down three times. The four positions are given below. Find the alphabet opposite to A ?



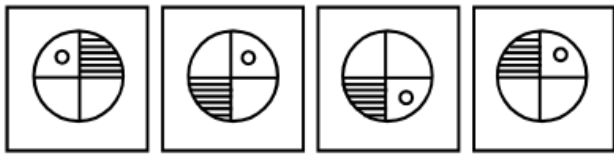
- (1) D (2) B
(3) C (4) F

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Direction: (Qn No.: 75 -78)

Find the figure which is not matching with others.

75.



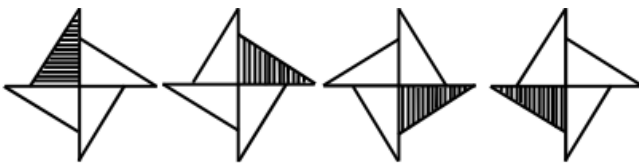
(1) (2) (3) (4)

76.



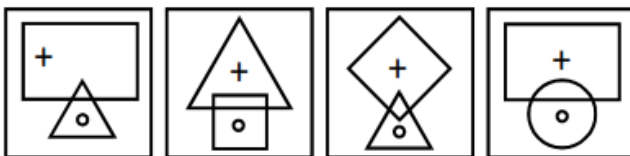
(1) (2) (3) (4)

77.



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

78.

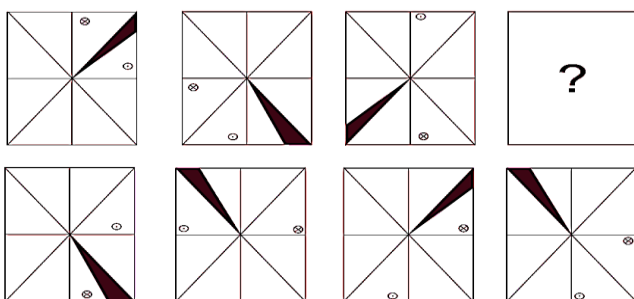


(1) (2) (3) (4)

Direction : (Qn No. : 79 - 80)

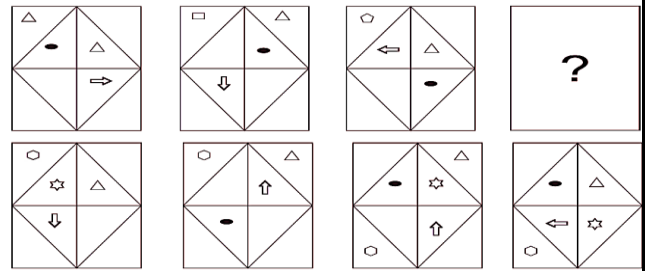
The following questions are based on the figures in series. Pick from the options what will come next.

79.



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

80.

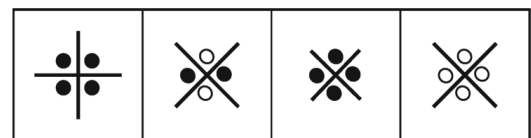
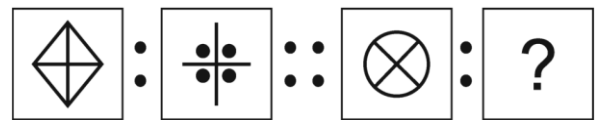


(1) (2) (3) (4)

Direction: (Qn No. : 81 - 83)

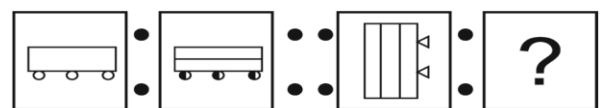
In the each of the given figures, there is a relationship between first two figures. The same relation is between the next two figures, but one is missing. Find the missing figure from the given alternatives

81.



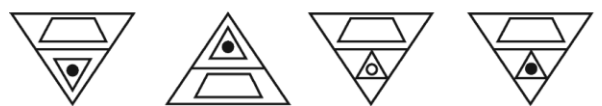
(1) (2) (3) (4)

82.



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

83.



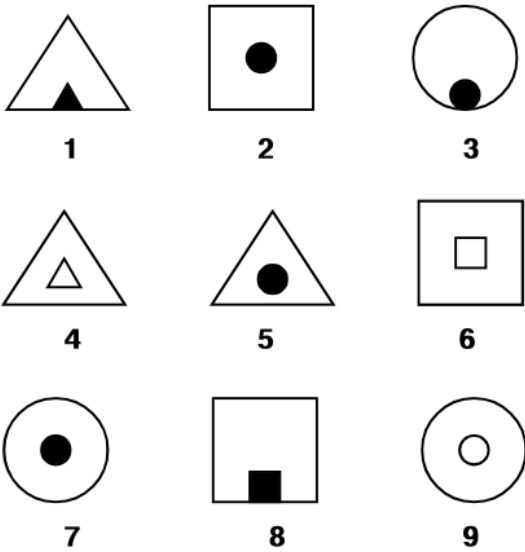
(1) (2) (3) (4)

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84. In a group of 55 students, Lakshana's place in ascending order is 36. What will be her order in descending order?

- (1) 19 (2) 20
(3) 21 (4) 22

85. A series of figures are given which can be grouped into classes. Select the group into which figures can be classified from the given responses.



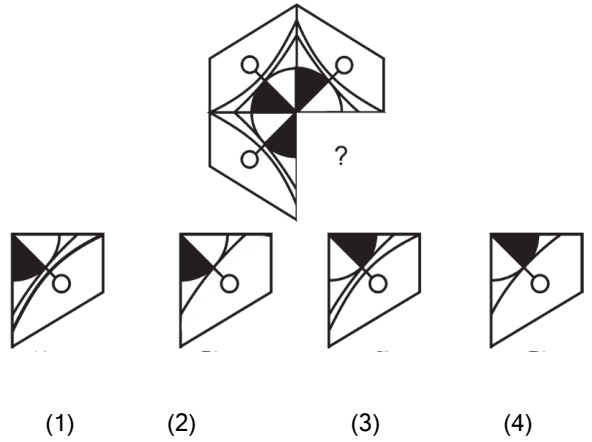
- (1) 1,4,5 ; 2,6,8 ; 3,7,9
(2) 1,3,7 ; 4,6,9 ; 2,5,8
(3) 1,3,7 ; 2,5,8 ; 4,6,9
(4) 1,3,8 ; 2,5,7 ; 4,6,9

86. Find the water image of figure.

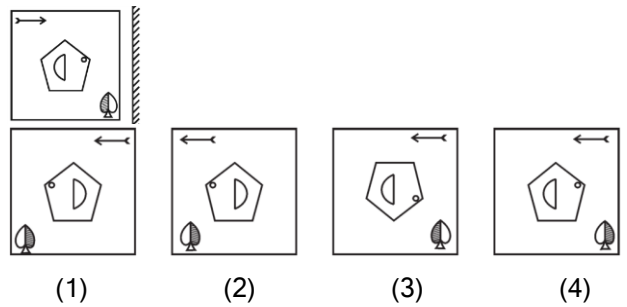
CHIDE

- (1) **EDICH** (2) **CHIDE**
(3) **CHIDE** (4) **EDICH**

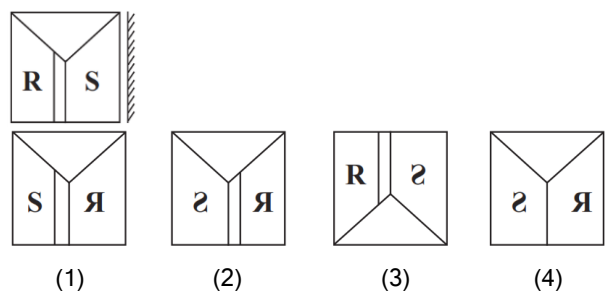
87. In the following figures, a part of the figure is missing. Identify the missing part among the four alternatives given:



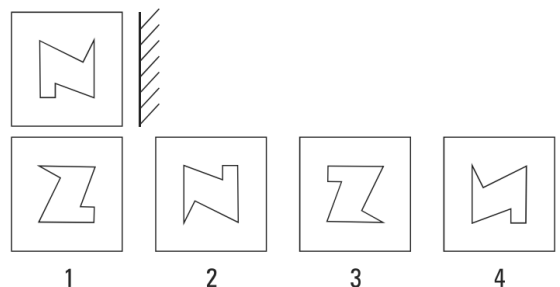
88. The mirror image of figure (x) is



89. The mirror image of figure (x) is



90. The mirror image of figure (x) is



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