19 MISSING NUMBER

In this chapter, in each question some numbers/alphabets are given in one/more than one figures/matrix. The numbers/ alphabets are arranged in a proper order. In a part of the figure a number is not given and it is replaced by a question mark (?). You have to evaluate the questions and find out which alphabet/numbers will come in place of question mark.

Some of the questions with their detailed analyses have been explained below.

For eg:

(1) Find the missing number in the figure given below and choose the correct alternative from the options given.

7	4	9
14	8	?
28	16	36
56	32	32

(1) 81 (2) 27 (3) 16 (4) 18

Sol. 4; In 1st column

$7 \times 2 = 14$

$14 \times 2 = 28$

$28 \times 2 = 56$

In 2nd column

$4 \times 2 = 8$

$8 \times 2 = 16$

$16 \times 2 = 32$

In the same way in 3rd column

$9 \times 2 = \boxed{18}$

$18 \times 2 = 36$

$36 \times 2 = 72$

Ans. (4).

(2) Which number will come in the place of question mark in the figure given below?

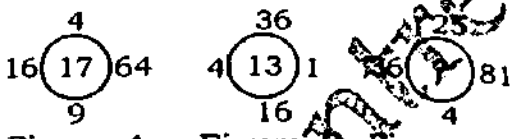


Figure A Figure B Figure C

(1) 20 (2) 22 (3) 26 (4) 27

Sol. 2; In the figure given above the number given in the circle is the sum of the square roots of the numbers encircling the circle.

Figure in A,

$\sqrt{4} + \sqrt{64} + \sqrt{9} + \sqrt{16} = 2 + 8 + 3 + 4 = 17$

Figure in B,

$\sqrt{36} + \sqrt{1} + \sqrt{16} + \sqrt{4} = 6 + 1 + 4 + 2 = 13$

In the same type figure in C,

$= 5 + 9 + 2 + 6 = \boxed{22}$

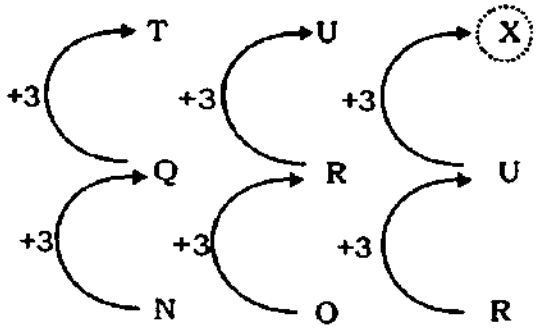
Ans. (2).

(3) Find the missing alphabet

T	U	?
Q	R	U
N	O	R

(1) L (2) O (3) I (4) X

Sol. 4;



Ans. (4).

Exercise:

Directions (1 - 43): Find out missing number/ letter/number and letter from the following given options/figures.

1.

17 | 5	15 | 21	21 | 17
11	18	?

(1) 14 (2) 18 (3) 20 (4) 19

2.

26	A	19
18	15	B
C	7	3

What will come in place of A, B and C respectively?

(1) 23, 10, 11 (2) 11, 23, 20

(3) 23, 101, 10 (4) 10, 11, 23

3.

125	192	56
25	?	28
5	12	14
1	3	7

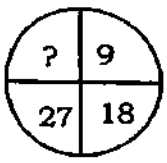
(1) 64 (2) 56 (3) 48 (4) 40

4.

?	9	4	1
4	3	2	1
?	6	4	2

(1) 16, 8 (2) 49, 7 (3) 36, 4 (4) 25, 5

5.

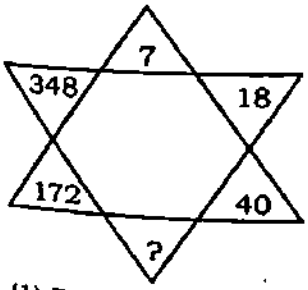


(1) 40 (2) 3[illegible] (3) 39 (4) 44

6.

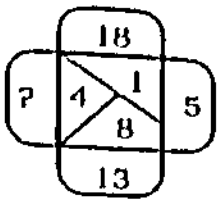
(1) [illegible] (2) 11 (3) 12 (4) 13

7.



(1) 72 (2) 84 (3) 68 (4) 66

8.



(1) 10 (2) 11 (3) 17 (4) [illegible]

9. 1 9 4 16 9 25 16 [illegible]

25 36 49

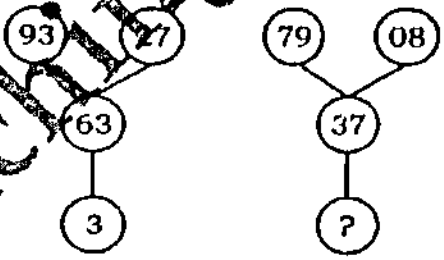
(1) 47 (2) 64 (3) [illegible]50 (4) 57

10. 12 8 16 6 25 [illegible]

80 220 ?

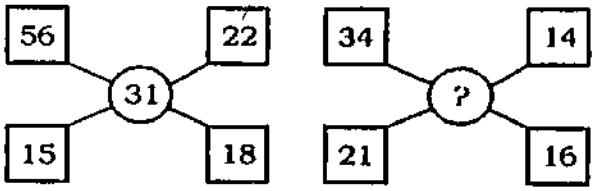
(1) 225 (2) [illegible]10 (3) 241 (4) 425

11.



(1) 25 (2) 36 (3) 38 (4) 34

12.



(1) 25 (2) 52 (3) 12 (4) 48

13.

3 6

5 12 4 5 ? 2

2 10

(1) 50 (2) 60 (3) 70 (4) 16

14. 15 36 6 6 21 7 50 ? 10

4 5 10

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

15.

14	19	12
13	15	17
18	11	?

(1) 9 (2) 16 (3) 15 (4) 14

16.

9	8	7
6	7	8
5	4	6
260	214	?

(1) 191 (2) 326 (3) 277 (4) 336

17.

5	6	3
25	42	21
21	100	20
26	107	?

(1) 72 (2) 26 (3) 27 (4) 73

18.

0	-1	-2
1	0	-1
2	?	10

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

19.

5	5	2
8	3	10
2	4	1
160	120	?

(1) 40 (2) 12 (3) 13 (4) 20

20.

?	19	47
21	22	40
1	20	50
20	23	49

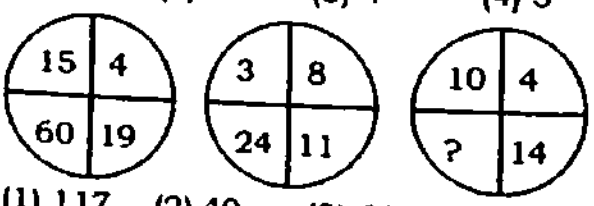
(1) 5 (2) 4 (3) 3 (4) 2

21.

18	24	32
12	14	16
3	?	4
3	7	12

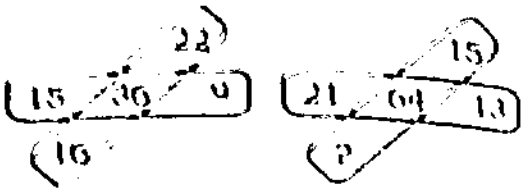
(1) 2 (2) 3 (3) 4 (4) 5

22.



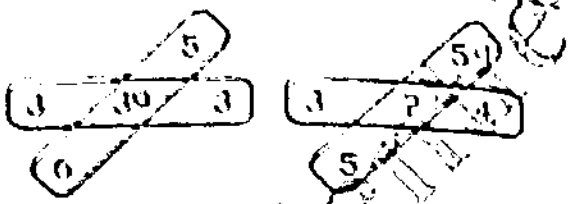
(1) 117 (2) 40 (3) 61 (4) 81

23.



(1) 7 (2) 19 (3) 20 (4) 22

24.



(1) 47 (2) 45 (3) 37 (4) 35

25.

17	14	5
8	7	6
3	3	2
56	49	31

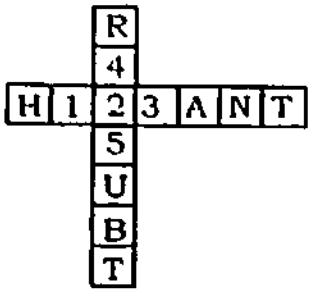
(1) 3 (2) 4 (3) 5 (4) 6

26.

27	9	21
4	81	36
9	?	45

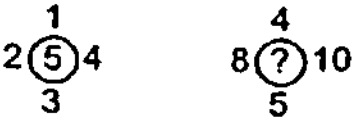
(1) 18 (2) 25 (3) 36 (4) 58

27.



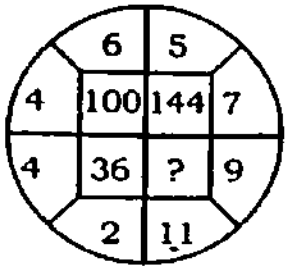
(1) EBE, UBH (2) ILI, ELL
(3) ONI, ONT (4) YDR, EDO

28.



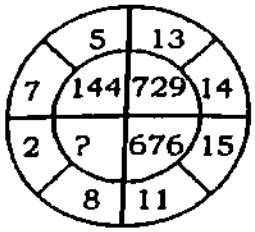
(1) 20 (2) 40 (3) 60 (4) 80

29.



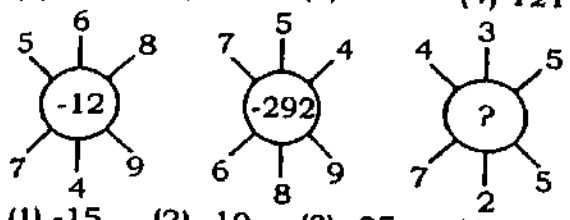
(1) 500 (2) 108 (3) 400 (4) 112

30.



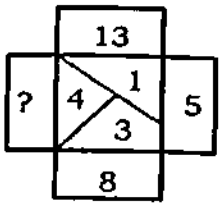
(1) 64 (2) 81 (3) 100 (4) 121

31.



(1) -15 (2) -10 (3) -35 (4) -40

32.

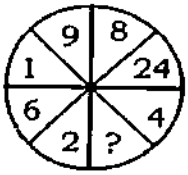


(1) 10 (2) 11 (3) 12 (4) 13

33.

(1) 18 (2) 22 (3) 49 (4) 35

34.



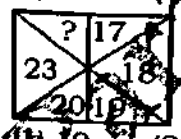
(1) 5 (2) 8 (3) 36 (4) 14

35.

3	27	9
7	21	3
4	?	7

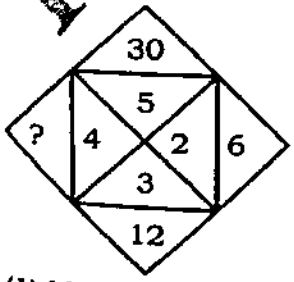
(1) 11 (2) 28 (3) 35 (4) 48

36.



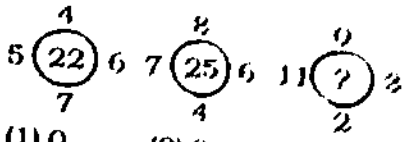
(1) 19 (2) 22 (3) 26 (4) 28

37.



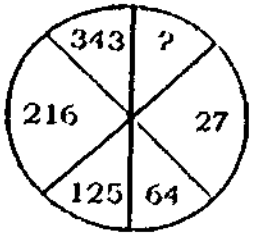
(1) 10 (2) 20 (3) 12 (4) 14

38.



(1) 0 (2) 2 (3) 11 (4) 15

39.



(1) 4 (2) 72 (3) 125 (4) 512

40.

6	6	8
5	7	5
4	[illegible]	[illegible]
240	252	640

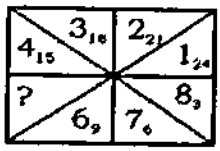
(1) [illegible] (2) 8 (3) 12 (4) 16

41.

9	10	12
12	16	24
24	31	?

(1) 31 (2) 45 (3) 33 (4) 35

42.



(1) 5_{21} (2) 5_{12} (3) 6_{12} (4) 8_8

43.

9	13	12
19	10	5
8	?	11

(1) 9 (2) 15 (3) 13 (4) 11

Answers with Explanation:

1. 4; 17 + 5 = 22 ÷ 2 = 11
   15 + 21 = 36 ÷ 2 = 18
   21 + 17 = 38 ÷ 2 = 19

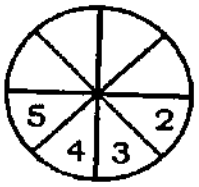
2. 3; 26 -3 23 -4 19
   18 -3 15 -4 11
   10 -3 7 -4 3

3. 3; In column I
$1 \times 5 = 5 \times 5 = 25 \times 5 = 125$
In column III
$7 \times 2 = 14 \times 2 = 28 \times 2 = 56$
So, In Column II
$3 \times 4 = 12 \times 4 = 48 \times 4 = 192$

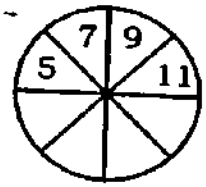
4. 1; In I row
Digits - $1^2, 2^2, 3^2, 4^2$
In row II
Digit 1, 2, 3, 4
In row III
Digits $2 + 2 = 4, 4 + 2 = 6, 6 + 2 = 8$

5. 2; $9 + 3^2 = 9 + 9 = 18$
$18 + 3^2 = 18 + 9 = 27$
$27 + 3^2 = 27 + 9 = 36$

6. 2;



In half part of circle digit are increasing in ascending order i.e. 2, 3, 4, 5



In the half part of circle digits are increasing in ascending order in odd number if, 5, 7, 9 , 11

7. 2; $7 \times 2 + 4 = 18$
$= 18 \times 2 + 4 = 40$
$= 40 \times 2 + 4 = 84$
$= 84 \times 2 + 4 = 172$
$= 172 \times 2 + 4 = 348$

8. 3; $5 + 8 = 13$
$= 13 + 4 = 17$
$= 17 + 1 = 18$
So, missing number is = 17

9. 2; In figure I
$1^2 = 1$
$3^2 = 9$
$5^2 = 25$
In figure II
$2^2 = 4$
$4^2 = 16$
$6^2 = 36$
In figure III
$3^2 = 9$
$5^2 = 25$
$7^2 = 49$
So, in figure IV
$4^2 = 16$
$6^2 = 36$
$8^2 = 64$

10. 1; In figure I
$12^2 - 8^2$
$= 144 - 64 = 80$
In figure II
$16^2 - 6^2$
$= 256 - 36 = 220$
In figure III
$25^2 - 20^2$
$= 625 - 400$
$= 225$

11. 4; In figure I
$93 - (27 + 63) = 3$
In figure II
$79 - (08 + 37)$
$= 79 - 45 = 34$

12. 1; In figure I
$(56 + 15) - (22 + 18)$
$= 71 - 40 = 31$
In figure II
$(34 + 21) - (14 + 16)$
$= 55 - 30 = 25$

13. 2; In figure I
$(3 \times 4 \times 2 \times 5) \div 12$
$= 120 \div 12 = 10$
In figure II
$(6 \times 2 \times 10 \times 5) \div x = 10$
$600 \div x = 10$
$x = 600 \div 10$
$x = 60$

14. 3; In figure I
$(15 \times 6 \times 4) \div 36$
$= 360 \div 36 = 10$
In figure II
$(6 \times 7 \times 5) \div 21$
$= 210 \div 21 = 10$
In figure III
$(50 \times 10 \times 10) \div x = 10$
$5000 \div x = 10$
$x = 5000 \div 10$
$x = 500$

15. 2; In row I
$14 + 19 + 12 = 45$
In row II
$13 + 15 + 17 = 45$
So, In row III
$18 + 11 + x = 45$
$29 + x = 45$
$x = 45 - 29$
$x = 16$

16. 2; In column I
$9 \times 6 \times 5 = 270 - 10 = 260$
In column II
$8 \times 7 \times 4 = 224 - 10 = 214$
So, in column III original number is
$7 \times 8 \times 6 = 336 - 10 = 326$

17. 3; In column I
$(25 \div 5) + 21 = 26$
In column II
$(42 \div 6) + 100 = 107$
In column III
$(21 \div 3) + 20$
$= 7 + 20 = 27$

18. 1; In row I

$$\frac{0+(-2)}{2} = -1$$

In row II

$$\frac{1+(-1)}{2} = 0$$

$\therefore$ Missing Number is $\frac{2+0}{2} = 1$

19. 1; In column I
$(5 \times 8 \times 2) \times 2 = 160$
In column II
$(5 \times 3 \times 4) \times 2 = 120$
So, Missing Number $= (2 \times 10 \times 1) \times 2 = 40$

20. 4; In Column II = (22 + 20) - 23
= 42 - 23 = 19
In Column III = (40 + 50) - 43
= 90 - 43 = 47
Then missing number = (21 + 1) - 20 = 2

21. 2; In column I = 18 - 12 - 3 = 3
In column III = 32 - 16 - 4 = 12
Then, in column II = 24 - 14 - x = 7
$10 - x = 7$
$x = 10 - 7$
$x = 3$
So, missing no. is 3

22. 2; In figure I = $15 \times 4 = 60$, $15 + 4 = 19$
In figure II = $3 \times 8 = 24$, $3 + 8 = 11$
Then missing number is = $10 \times 4 = 40$

23. 1; In figure I = (15 - 9) × (22 - 16)
= 6 × 6 = 36
Then missing number = (21 - 13) × (15 - x) = 64
= 8(15 - x) = 64
= 120 - 8x = 64
8x = 56
x = 7

24. 3; In figure I $(3 \times 3) + (8 \times 5) = 39$
Then missing number $= (3 \times 4) + (5 \times 5) = 37$

25. 3; In Column I — $(17 \times 3) + 8 = 59$
In Column II — $(14 \times 3) + 7 = 49$
Then missing number = $5 \times x + 6 = 31$
$= 5x + 6 = 31$
$5x = 25$
$x = 5$

26. 2; First Row — $21 \div 7 = 3$ and $3^2 = 9$
Second Row — $36 \div 4 = 9$ and $9^2 = 81$
Then missing number in third row = $45 \div 9 = 5$ and $5^2 = 25$

27. 4; In these question
in row — YDR
in column — EDO
Then complete word is REDOUBT and HYDRANT.

28. 3; We have — $(2 \times 4) - (1 \times 3) = 8 - 3 = 5$
In the same way $(8 \times 10) - (4 \times 5) = 80 - 20 = 60$

29. 3; The arrangement is $4 + 6 = 10$, $10^2 = 100$
$5 + 7 = 12$, $12^2 = 144$
$4 + 2 = 6$, $6^2 = 36$
In the same way $9 + 11 = 20$; $20^2 = 400$
Then missing number is 400.

30. 3; The arrangment is $7 + 5 = 12$; $12^2 = 144$
$13 + 14 = 27$; $27^2 = 729$
$15 + 11 = 26$; $26^2 = 676$
In the same way $8 + 2 = 10$; $10^2 = 100$
Then missing number is 100.

31. 2; In figure I
$(5 \times 6 \times 8) - (7 \times 4 \times 9)$
= 240 - 252 = -12 (middle number)
In figure II
$(7 \times 5 \times 4) - (6 \times 8 \times 9)$
= 140 - 432 = -292 (middle number)

In figure III
$(4 \times 3 \times 5) - (7 \times 2 \times 5)$
$= 60 - 70 = -10$ (middle number)
So, missing number is -10.

32. 3; Sum of number in triangle and square = situated in next square
$5 + 3 = 8$, $8 + 4 = 12$, $12 + 1 = 13$
Then missing number is 12

33. 3; In ring I, $3 + 5 + 7 + 1^3 = 16$
In ring II, $3 + 5 + 8 + 2^3 = 24$
Then,
Third ring - $7 + 4 + 11 + 3^3 = 49$

34. 3; Numbers are diagonally multiplied with 4.
$1 \times 4 = 4$, $6 \times 4 = 24$, $2 \times 4 = 8$
So, $9 \times 4 = 36$
Then missing number is 36

35. 2; Middle number in first row $= 3 \times 9 = 27$
Middle number is second row
$= 7 \times 3 = 21$
Then, Middle number in third row $= 4 \times 7 = 28$
Then missing no. is 28

36. 3; $17 \xrightarrow{+1} 18 \xrightarrow{+1} 19$
So, $20 \xrightarrow{+3} 23 \xrightarrow{+3} 26$
Then missing number is 26.

37. 2; The arrangment is
$2 \times 3 = 6$
$3 \times 4 = 12$
$4 \times 5 = 20$
$5 \times 6 = 30$
Then, missing number is 20

38. 4; Number in the circle
$= (5 + 6) + (4 + 7) = 22$
Number in the circle
$= (7 + 6) + (8 + 4) = 25$
Number in the circle
$= (11 + 3 + 2 + 0) = 16$

39. 4; In order $3^3 = 27$, $4^3 = 64$,
$5^3 = 125$, $6^3 = 216$
$7^3 = 343$
Then, $8^3 = 512$
Then, missing number is 512.

40. 2; Column I
$= (6 \times 5 \times 4) \times 2$
$= 120 \times 2 = 240$
Column II
$= (6 \times 7 \times 3) \times 2$
$= 126 \times 2 = 252$
Then, Column III
$= (8 \times 5 \times x) \times 2 = 640$
$= 40x \times 2 = 640$
$= 40x = 640 \div 2$
$= 40x = 320$
$x = 8$
Then, missing is 8

41. 2; In order,
In row I, $9 \xrightarrow{+1} 10 \xrightarrow{+2} 12$
In row II, $12 \xrightarrow{+4} 16 \xrightarrow{+8} 24$
Then, In row III, $24 \xrightarrow{+7} 31 \xrightarrow{+14} 45$
Then, missing no is 45.

42. 2; Clearly, moving anticlockwise.
$1 \xrightarrow{+1} 2 \xrightarrow{+1} 3 \xrightarrow{+1} 4 \xrightarrow{+1} 5 \xrightarrow{+1} 6 \xrightarrow{+1} 7 \xrightarrow{+1} 8$
Moving Clockwise
$3 \xrightarrow{+3} 6 \xrightarrow{+3} 9 \xrightarrow{+3} 12 \xrightarrow{+3} 15 \xrightarrow{+3} 18 \xrightarrow{+3} 21$
Then, missing number is 5, 12.

43. 2; The Sum of all numbers of each row is = 34
Then, the missing number is
$= 8 + 11 + x = 34$
or, $19 + x = 34$
or, $x = 34 - 19$
or, $x = 15$