

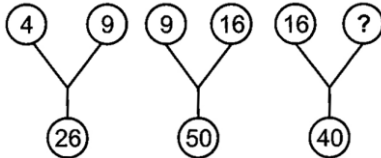
# Mathematical Reasoning

1. Find the missing number.



- (a) 32 (b) 8  
(c) 16 (d) 4

2. Find the missing number.



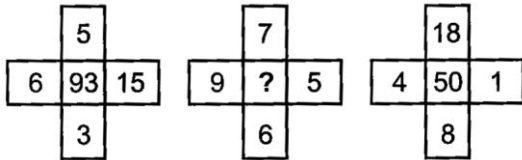
- (a) 2 (b) 5  
(c) 3 (d) 4

3. Find the missing number.

15	6	5
13	3	9
8	2	?
20	7	13

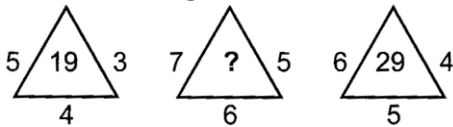
- (a) 4 (b) 7  
(c) 6 (d) 1

4. Find the missing number.



- (a) 5 (b) 19  
(c) 27 (d) 89

5. Find the missing number.



- (a) 25 (b) 37  
(c) 41 (d) 47

6. Find the missing number.

4	5	6
2	3	7
1	3	3
7	12	?

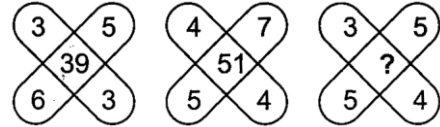
- (a) 93 (b) 76  
(c) 39 (d) 36

7. Find the missing number.

1	2	3
11	27	35
1	7	?

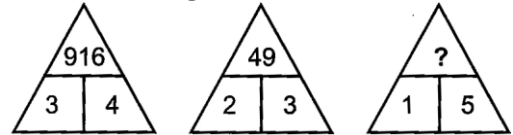
- (a) 5 (b) 6  
(c) 7 (d) 9

8. Find the missing number.



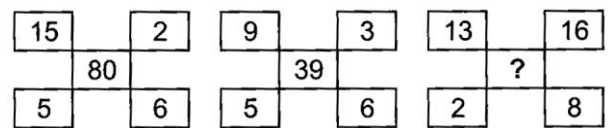
- (a) 35 (b) 37  
(c) 45 (d) 47

9. Find the missing number.



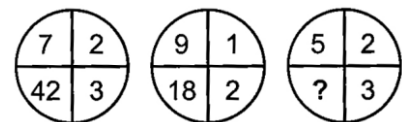
- (a) 125 (b) 215  
(c) 251 (d) 512

10. Find the missing number.



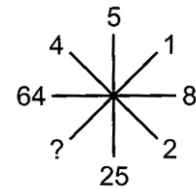
- (a) 35 (b) 48  
(c) 72 (d) 120

11. Find the missing number.



- (a) 3 (b) 13  
(c) 18 (d) 30

12. Find the missing number.



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

13. Find the missing number.



- (a) 30 (b) 31  
(c) 39 (d) 45

14. Find the missing number.

84		81		88	
14	12	18	9	?	11

- (a) 21 (b) 16  
(c) 61 (d) 81

15. Find the missing number.

5	6	5
8	9	7
10	7	?
400	378	315

- (a) 9 (b) 5  
(c) 7 (d) 3.

16. How many 7's are there in the following series which are immediately preceded by 5 and followed by 4?

1 5 7 3 4 7 5 7 4 8 5 7 4 3 2 1 7 7 1 5 7 9 1 7 4

- (a) 2 (b) 4  
(c) 3 (d) 5

17. How many numbers are there in this series which are preceded by a number which can be divided by either 3 or 5 and followed by the number which is divided only by

1 5 6 2 9 5 2 5 3 4 6 2 8 5 2 9 5 3 2

- (a) 6 (b) 4  
(c) 5 (d) 1

18. How many 5's are there which are followed by 0 and preceded by 0 in the series?

1 5 7 0 5 0 7 0 0 5 1 2 5 1 5 0 5 0 0 5 0

- (a) 1 (b) 3  
(c) 4 (d) 5

19. How many numbers are there which are preceded by and followed by 0 in this series?

5 4 0 3 2 1 0 5 0 1 0 5 0 1 0 5 3 6 3 2 5 2 1

- (a) 1 (b) 2  
(c) 3 (d) 0

20. How many 6's are there in this series which are followed by 6 but not preceded by 6?

1 6 6 6 7 6 5 8 6 9 6 5 0 5 6 6 4 6 6 7 6 6 9

- (a) 1 (b) 5  
(c) 2 (d) 4

21. How many even numbers are there in the following series of numbers, each of which is immediately preceded by an odd number,

but not immediately followed by an even number?

5 3 4 8 9 7 1 6 5 3 2 9 8 7 3 5

- (a) 0 (b) 1  
(c) 2 (d) 3

22. How many odd numbers are there in this series followed by 1 and preceded by 2?

1 3 2 0 0 4 5 6 7 8 9 1 0 2 3 1 5 0 2 1 3 5 1 6 0

- (a) 1 (b) 2  
(c) 4 (d) 6

23. In the following number series, how many 8's are there which are immediately preceded by a number which does not divide it but followed by a number which divides it?

2 8 2 8 3 8 5 8 8 5 3 2 8 2 3 8 4 7 1 5 8 3 8 2 8 6

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

24. How many numbers are there which are preceded by and followed by 5 in this series?

5 2 4 3 2 1 6 5 3 2 1 5 2 4 5 6 8 9

- (a) 1 (b) 2  
(c) 4 (d) 5

25. How many numbers are there in this series which are neither preceded by 2 nor succeeded by 3?

4 2 3 5 9 2 6 3 6 8 2 1 9 2 5 3 0

- (a) 6 (b) 8  
(c) 10 (d) 12

26. In the given series of letters, how many t's are preceded and followed by t?

P t P t t P P t P t P P P q q P t P t t P P P t

- (a) 0 (b) 2  
(c) 3 (d) 4

27. How many A's are there in the following series which are immediately followed by B as well as immediately preceded by Z?

A M B Z A I M A A B Z A B A Z B A P Z A B A Z A B

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

28. How many L's are there which do not have R preceding them and also do not have T following them?

Z Q S T L R M N Q N R T U V X R L T A S L

T Q R S L T
-------------

- |       |       |
|-------|-------|
| (a) 1 | (b) 2 |
| (c) 3 | (d) 5 |

- 29.** In the following list of letters, how many O's are followed by Q's but not preceded by D's?

D O Q O D Q O D O D Q D O Q D S
D Q P
O Q D S S S D O Q O Q D O Q D D
D O Q

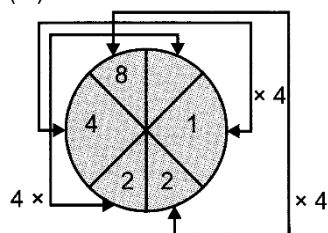
- |       |       |
|-------|-------|
| (a) 0 | (b) 1 |
| (c) 2 | (d) 3 |

- 30.** If every alternate letter of English alphabet from B onwards (including B) is written in lower case (small letters) and the remaining letters are capitalized, then how will the first month of the second half of the year be written?

- |          |            |
|----------|------------|
| (a) JuLy | (b) AuGuSt |
| (c) jUly | (d) AugUst |

# Solutions

1. (B)



2. (D)

$$(9+4) \times 2 = 13 \times 2 = 26$$

$$(9+16) \times 2 = 25 \times 2 = 50$$

$$(16+4) \times 2 = 20 \times 2 = 40$$

3. (D)

Along the columns,

$$(15+13) - 8 = 20$$

$$(6+3) - 2 = 7$$

$$(5+9) - \boxed{1} = 13$$

4. (D)

$$(15 \times 5) + (6 \times 3) = 93$$

$$(18 \times 1) + (4 \times 8) = 50$$

$$(7 \times 5) + (9 \times 6) = \boxed{89}$$

5. (C)

$$(5 \times 3) + 4 = 19$$

$$(6 \times 4) + 5 = 29$$

$$(7 \times 5) + 6 = \boxed{41}$$

6. (C)

Along the columns

$$(4 \times 2) - 1 = 7$$

$$(5 \times 3) - 3 = 12$$

$$(6 \times 7) - 3 = \boxed{39}$$

7. (A)

$$11 - (1 \times 10) = 1$$

$$27 - (2 \times 10) = 7$$

$$35 - (3 \times 10) = \boxed{5}$$

8. (B)

$$(3 \times 3) + (5 \times 6) = 39$$

$$(4 \times 4) + (7 \times 5) = 51$$

$$(3 \times 4) + (5 \times 5) = \boxed{37}$$

9. (a)

$$\begin{array}{ccccccc} 9 & 16 & & 4 & 9 & \boxed{125} \\ \uparrow & \uparrow & & \uparrow & \uparrow & \uparrow & \uparrow \\ 3^2 & 4^2 & & 2^2 & 3^2 & 1^2 & 5^2 \end{array}$$

10. (C)

$$(15 \times 6) - (5 \times 2) = 90 - 10 = 80$$

$$(9 \times 6) - (5 \times 3) = 54 - 15 = 39$$

$$(13 \times 8) - (16 \times 2) = 104 - 32 = \boxed{72}$$

11. (D)

$$7 \times 2 \times 3 = 42$$

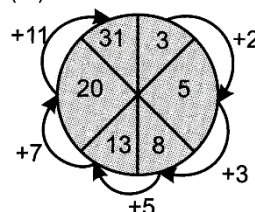
$$9 \times 1 \times 2 = 18$$

$$5 \times 2 \times 3 = \boxed{30}$$

12. (A)

$$2^2 \rightarrow 4; 8^2 \rightarrow 64; 5^2 \rightarrow 25; 1^1 \rightarrow \boxed{1}$$

13. (B)



So, answer is 31.

14. (B)

$$\frac{12 \times 14}{2} = 84, \quad \frac{9 \times 18}{2} = 81, \quad \frac{11 \times \boxed{?}}{2} = 88$$

$\therefore$  The number is 16.

15. (A)

$$5 \times 8 \times 10 = 400; \quad 6 \times 9 \times 7 = 378; \quad 5 \times 7 \times \boxed{?} = 315$$

$\therefore$  The number = 9

16. (A)

$$157347 \boxed{574} 8 \boxed{574} 321771579174$$

There are two 7's.

17. (B)

$$15 \boxed{629} 525 \boxed{346} 28 \boxed{529} \boxed{53} 2$$

There are 4 such numbers.

18. (B)

$$157 \boxed{050} 700512515 \boxed{050} \boxed{050}$$

There are 3 such 5's.

19. (D)

$$54032105010501053632521$$

There are no such numbers in the series.

20. (D)

$$\boxed{166} 6765869650 \boxed{566} \boxed{466} \boxed{766} 9$$

There are four such 6's.

21. (D)

5 3 4 8 9 7 1 6 5 3 2 9 8 7 3 5

There are three such numbers.

22. (A)

1 3 2 0 0 4 5 6 7 8 9 1 0 2 3 1 5 0 2 1 3 5 1 6 0

There is only one such number.

23. (C)

2 8 2 8 3 8 5 8 8 5 3 2 8 2 3 8 4 7 1 5 8 3 8 2 8 6

There are 3 such numbers.

24. (A)

5 2 4 3 2 1 6 5 3 2 1 5 2 4 5 6 8 9

There is one such number.

25. (C)

4 2 3 5 9 2 6 3 6 8 2 9 9 2 5 3 0

There are 10 such numbers.

26. (A)

p t p t t p p t p t p p p q q p t p t t p p p t

There are no such t's.

27. (D)

A M B Z A N A A B Z A B A Z B B A P Z A B A Z A B

There are three such A's.

28. (A)

Z Q S T L R M N Q N R T U V X R L T A S L T Q R S L T

There is only one such L.

29. (C)

D O Q O D O D Q D O Q D S D Q P O Q D S S S D O

Q O Q D O Q D D D O Q

There is two such O.

30. (A)

A b C d E f G h I j K l M n O p Q r S t U

v W x Y z.

first month of the second half of the year is  
7th month i.e., JULY which will be written  
as JULY.