

Answer & Solutions

Maths

1. If $\Delta = 12$, $\blacksquare = 10$, $\bullet = 4$ and $\uparrow = 2$, then $\Delta \times \uparrow - \blacksquare - \bullet = ?$

- a) $\uparrow$
- b) $\bullet$
- c) Δ
- d) $\blacksquare$

Answer (d)

Sol. $12 \times 2 - 10 - 4 = 10$

Option (d) is correct.

2. Given $X = 7, Y = 3, Z = 4, A = 8$ and $B = 5$, in the given total, find out the missing symbol.

$$B + X + ? + A + Z + Y = 35$$

- a) X
- b) A
- c) Z
- d) B

Answer (b)

Sol. $5 + 7 + ? + 8 + 4 + 3 = 35$

$$27 + ? = 35$$

$$= 8$$

Option (b) is correct.

Questions: (3-5)

Directions: In each of the following questions given below, a certain rule has been followed. You are required to find the missing number in the question following the same rule and choose the correct answer out of the given options.

3. $6 \times 8 \times 3 = 243, 7 \times 6 \times 1 = 211, 8 \times 4 \times 3 = 163, 5 \times 8 \times 7 = ?$

- a) 243
- b) 407
- c) 357
- d) 207

Answer (d)

Sol. $6 \times 8 \times 3 = 243$

Here $\frac{6 \times 8}{2} = 24$ and last digit is as it is i.e. 243

$$7 \times 6 \times 1 = 211$$

So $\frac{7 \times 6}{2} = 21$ and again last digit is as it is i.e. 211

Now $8 \times 4 \times 3 = 163$

$$\frac{8 \times 4}{2} = 163$$

$$5 \times 8 \times 7$$

$$\frac{5 \times 8}{2} = 20 \text{ and } 7 \text{ as it is}$$

So 207

Option (d)

4. $148 \Leftarrow 12, 200 \Leftarrow 14, 293 \Leftarrow 17, ? \Leftarrow 15$

- a) 229
- b) 184
- c) 324
- d) 240

Answer (a)

Sol. $12^2 + 4 = 148$

$$14^2 + 4 = 220$$

$$17^2 + 4 = 293$$

$$15^2 + 4 = 229$$

Option (a)

5. $8(60)7, 12(66)5, 26(?)4$

- a) 108
- b) 115
- c) 117
- d) 123

Answer (c)

Sol. $8(60)7 = 8 \times 7 + \frac{8}{2} = 60$

So logic is, $a(b)c$ means $b = ac + \frac{a}{2}$

$$26(x)4 \Rightarrow x = 26 \times 4 + \frac{26}{2} = 104 + 13$$

$$x = 117$$

Option (c).

Questions: (6-8)

Directions: In each of the questions given below, a letter series is given in which a term is missing shown by a blank with question mark (?). Choose the correct alternative for the missing term.

6. $N, K, H, E, ?$

- a) A
- b) B
- c) Z
- d) Y

Answer (b)

Sol. N, K, H, E

$$\begin{array}{ccccccc} 14 & 11 & 8 & 5 & 2 \\ \underbrace{\hspace{1cm}} & \underbrace{\hspace{1cm}} & \underbrace{\hspace{1cm}} & \underbrace{\hspace{1cm}} & \\ -3 & -3 & -3 & -3 & \end{array}$$

Option (B)

7. $BY, GT, LO, QJ, ?$

- a) XC
- b) VE

c) VD

d) WD

Answer (b)

Sol.

$$\begin{array}{cccc} \text{BY} & , & \text{GT} & , & \text{LO} & , & \text{QJ} \\ 2 & 25 & 7 & 20 & 12 & 15 & 17 & 10 \\ \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & & & & \\ 27 & 27 & 27 & 27 & & & & \end{array}$$

$$\begin{array}{c} 225 \\ \downarrow \downarrow \\ \boxed{\text{VE}} \end{array}$$

Option (b)

8. $HTD, JSG, LRJ, ?$

a) NQM

b) NOM

c) NOP

d) MNQ

Answer (a)

Sol.

	+ 2	- 1	+ 3
HTD	8	20	4
JSG	10	19	7
LRJ	12	18	10
	14	17	13

NQM			

Option (a)

Questions: (9-10)

Directions: In each of the questions given below, there is a certain relationship between two given numbers on the left side of sign (::) the same relationship lies between the number given on right side of sign (::) and one of the given alternatives. Choose the correct alternative.

9. $6 : 215 :: 7 : ?$

- a) 249
- b) 256
- c) 316
- d) 342

Answer (d)

Sol. $6 : 6^3 - 1 = 215$

$$7 : 7^3 - 1 = 342$$

Option (d)

10. $50 : 7 :: 145 : ?$

- a) 10
- b) 12
- c) 15
- d) 21

Answer (b)

Sol. $50 : 7 :: 145 : ?$

$$7^2 + 1 : 7 :: 12^2 + 1 : 12$$

Option (b)

11. If 10 June, 2018 was Sunday, what was the day of 10 June, 2020 ?

- a) Monday
- b) Tuesday
- c) Wednesday

d) Friday

Answer (c)

Sol. 2019 → ordinary year → 1 odd day

2020 → leap year → 2 odd day

Total → 3 odd days

Sunday + 3 odd days → Wednesday.

12. If $M = 13$, $MAN = 28$, then $MORE = ?$

a) 51

b) 47

c) 59

d) 45

Answer (a)

Sol. $MORE \Rightarrow 13 + 15 + 18 + 5$

$\Rightarrow 51$

Option (a).

13. If in a certain code language 'ROAD' is written as 'SNBC' Then how will 'FISH' be written in that code ?

a) GHTG

b) EJRI

c) GHRI

d) GHRG

Answer (a)

Sol.

R	O	A	D
18	15	1	4
+ 1	- 1	+ 1	- 1
S	N	B	C

F	I	S	H
---	---	---	---

+ 1	− 1	+ 1	− 1
G	H	T	G

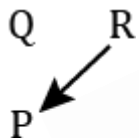
Option (a)

14. If P is at South of Q and R is at East of Q , then in which direction is P with respect to R .

- a) West
- b) North
- c) South-East
- d) South-West

Answer (d)

Sol.



South west

Option (d)

15. In a group of cows and hens, by counting it is found that number of total heads are 50 and number of total legs are 180. How many hens are there in the group ?

- a) 10
- b) 20
- c) 30
- d) 40

Answer (a)

Sol. $(C + H = 50) \times 2 \Rightarrow 2C + 2H = 100 \dots(1)$

$$4C + 2H = 180 \dots(2)$$

Solve these 2 equations

$$\begin{array}{rcl}
 4C + 2H & = & 180 \\
 2C + 2H & = & 100 \\
 \hline
 2C & = & 80 \\
 C & = & 40
 \end{array}
 \qquad
 \begin{array}{l}
 H = 10 \\
 C = 40
 \end{array}$$

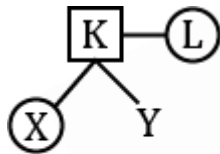
Option (a)

16. If X is sister of Y , Y is daughter of K . K is husband of L . How L is related to Y ?

- a) Father
- b) Son
- c) Mother
- d) Sister

Answer (c)

Sol.



L is mother

Option (c)

17. Length breadth and height of a cuboid of metal is 18cm , 16cm and 14cm . respectively if by melting it, some equal cubes of side 4cm are formed then number of cubes is :

- a) 49
- b) 63
- c) 36
- d) 42

Answer (b)

Sol. Volume of cuboid = (Volume of 1 cube) $\times$ 12

$$18 \times 16 \times 14 = 4 \times 4 \times 4 \times 12$$

$$63 = 12$$

Option (b)

In a row of students, A and B are standing on 6^{th} and 7^{th} positions respectively from the left and C and D are standing

on 4^{th} and 5^{th} positions respectively from the right. When B and C interchange their positions, then B will be 15^{th} from the left.

Questions: (18-20)

Directions: Read the following information carefully and answer the questions given below:

In a row of students, A and B are standing on 6^{th} and 7^{th} positions respectively from the left and C and D are standing on 4^{th} and 5^{th} positions respectively from the right. When B and C interchange their positions, then B will be 15^{th} from the left.

18. D 's position from the left is

- a) 8
- b) 11
- c) 14
- d) 16

Answer (c)

Sol.

Left 6 7	Left 15
A B	B
C	D C
	5 4 Right

Left 6 7	Left 15
A B	B
C	D C
	5 4 Right

D 's position – 14

Option (c)

19. How many students are standing between D and A ?

- a) 7
- b) 8

- c) 12
- d) 13

Answer (a)

Sol. A's position from left $\rightarrow 6$

D's position from left $\rightarrow 14$

Students in between = 7

Option (a)

20. After interchange of positions between B and C. C's position from the right will be.

- a) 4
- b) 6
- c) 10
- d) 12

Answer (d)

Sol. C's position from right $\Rightarrow 19 - 7$

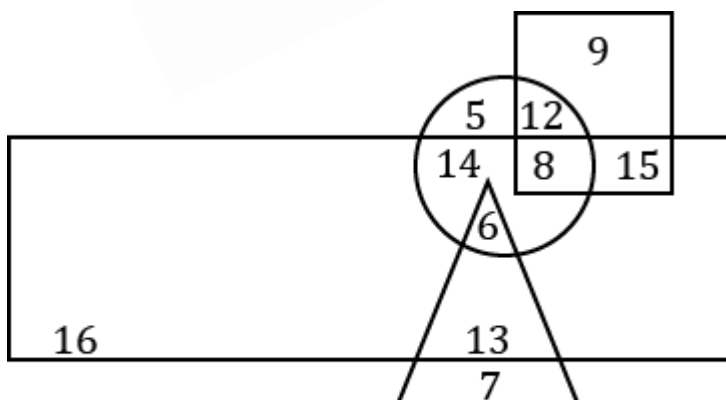
$$= 12$$

(Total students = 19)

Option (4)

Question (21- 25)

Direction: Each of the following questions is based on the diagram given below. Study the diagram carefully and answer the questions based on it.



In the given diagram 'rectangle' represents female 'triangle' represents educated. 'Circle' represents rural and '

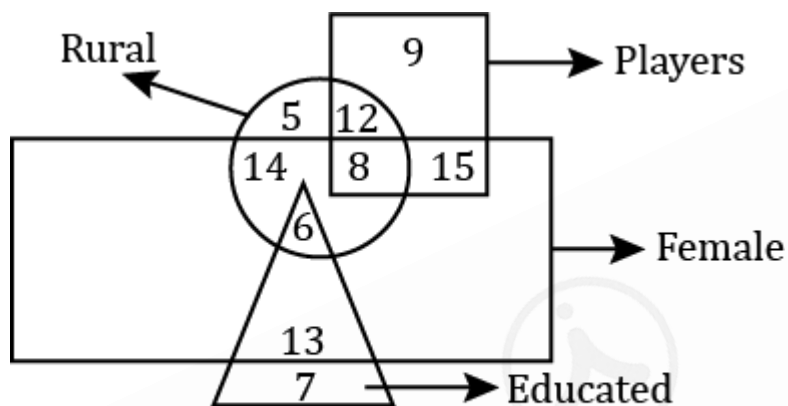
square represents players.

21. How many females are players?

- a) 8
- b) 15
- c) 20
- d) 23

Answer (d)

Sol.



Female who are players = $8 + 15 = 23$

Option (d)

22. How many rural females are educated ?

- a) 5
- b) 6
- c) 7
- d) 8

Answer (b)

Sol. Educated rural females = 6

Option (b)

23. How many males are educated?

- a) 7
- b) 13
- c) 20
- d) 14

Answer (a)

Sol. Educated males (not females) = 7

Option (a)

24. How many rural females are neither educated nor player ?

- a) 6
- b) 8
- c) 14
- d) 28

Answer (c)

Sol. Rural females, neither educated nor player
= 14

Options (c)

25. How many rural males are players ?

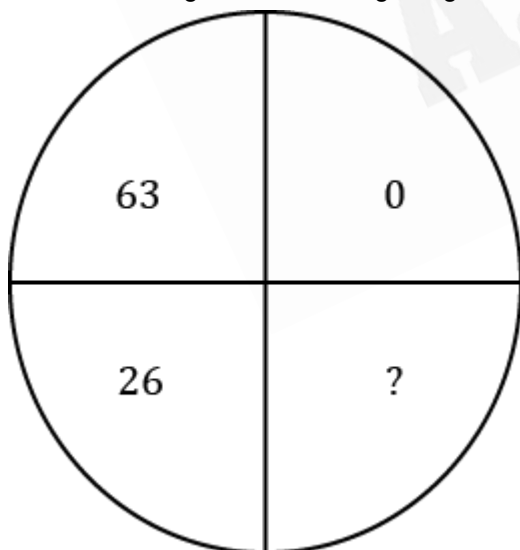
- a) 5
- b) 12
- c) 17
- d) 21

Answer (b)

Sol. Rural males (not females) who are players = 12

Option (b)

26. Find the missing term in the diagram given below:



- a) 5
- b) 7
- c) 25
- d) 10

Answer (b)

Sol. $0 = 1^3 - 1$

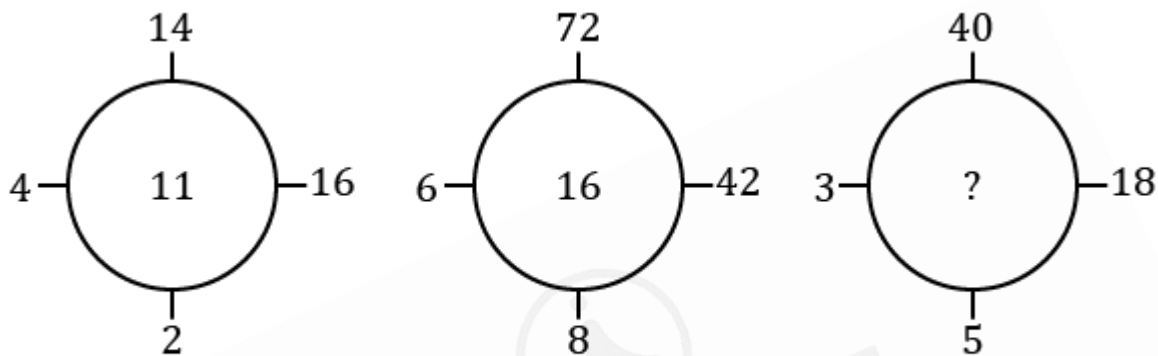
$7 = 2^3 - 1$

$26 = 3^3 - 1$

$63 = 4^3 - 1$

Option (b)

27. Find the missing term in the question given below:



- a) 14
- b) 18
- c) 22
- d) 25

Answer (a)

Sol. $\left(\frac{14}{2}\right) + \left(\frac{16}{4}\right) = 11$

$\left(\frac{72}{8}\right) + \left(\frac{42}{6}\right) = 16$

$\left(\frac{40}{5}\right) + \left(\frac{18}{3}\right) = 14$

Option (a)

28. Find the missing term in the question given below :

<i>A</i>	<i>E</i>	<i>K</i>
<i>I</i>	<i>M</i>	<i>S</i>
<i>?</i>	<i>Q</i>	<i>W</i>

- a) *J*
- b) *M*
- c) *P*
- d) *S*

Answer (b)

Sol. Place value

$$\begin{array}{ccc} \begin{array}{l} 1 \\ 9 \\ ? \end{array} \begin{array}{l} \} +8 \\ \} +4 \end{array} & \begin{array}{l} 5 \\ 13 \\ 17 \end{array} \begin{array}{l} \} +8 \\ \} +4 \end{array} & \begin{array}{l} 11 \\ 19 \\ 23 \end{array} \begin{array}{l} \} +8 \\ \} +4 \end{array} \end{array}$$

$9 + 4 = 13$ place value of M is 13
Hence option (b) is correct.

Questions: (29-31)

Directions: Read the information given below carefully.

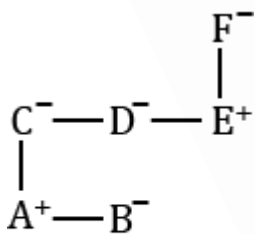
A is son of C , C and D are sisters of each other. F is Mother of E . B is sister of A . E is Brother of D .
Answer the following questions based on above information.

29. How is C related to F ?

- a) Son
- b) Daughter
- c) Brother
- d) Sister

Answer (b)

Sol.



Here $(-)$ sign for female member and $(+)$ sign for male members.

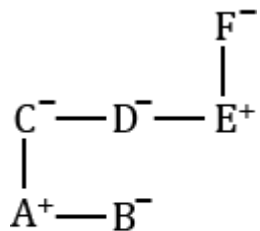
C is the daughter of F
Option (b)

30. How is A related to E ?

- a) Son
- b) Brother
- c) Nephew
- d) Father

Answer (c)

Sol.



Here (–) sign for female member and (+) sign for male members.

A is a nephew of *E*

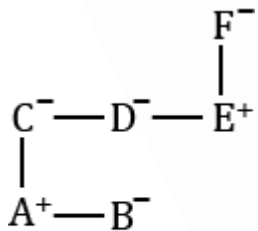
Option (c)

31. How is *C* related to *B*?

- a) Father
- b) Sister
- c) GrandMother
- d) Mother

Answer (d)

Sol.



Here (–) sign for female member and (+) sign for male member.

C is a mother of *B*

Option (d)

32. Which number has come maximum times in the following number series?

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

Answer (b)

Sol. 23357224325334234

Clearly here 3 occur maximum 6 times.

Hence option (b) is correct.

33. If 'Sky' is 'Star', 'Star' is 'Earth', 'Earth' is 'Cloud', 'Cloud' is 'tree' and 'tree' is 'book' then where does the bird fly ?

- a) Sky
- b) Earth
- c) Tree
- d) Star

Answer (d)

Sol. Birds fly in the 'Sky' but 'Sky' is 'Star' hence options (d) is correct

34. If in a certain code language 'WORD' is written as 412923 and 'MAN' is written as 142613 then how will 'WOMEN' be written in that code?

- a) 412142213
- b) 2321213514
- c) 41323514
- d) 231513513

Answer (a)

Sol.

<i>W</i>	<i>O</i>	<i>R</i>	<i>D</i>
4	12	9	23

Here opposite of *W* is *D* which place value is 4 similarly with *O*, *R* and *D*

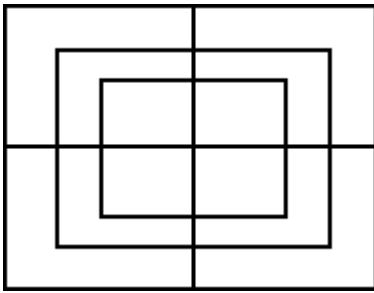
<i>M</i>	<i>A</i>	<i>N</i>
14	26	13

M's opposite is *N* which place value is 14 and this rule is also follow with *M*, *A* and *N*
Now

W	O	M	E	N
↓	↓	↓	↓	↓
4	12	14	22	13

Option (a)

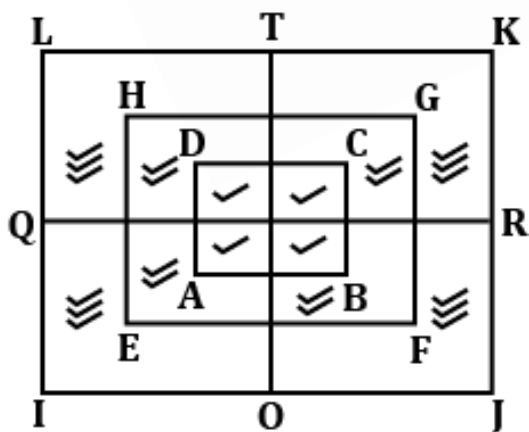
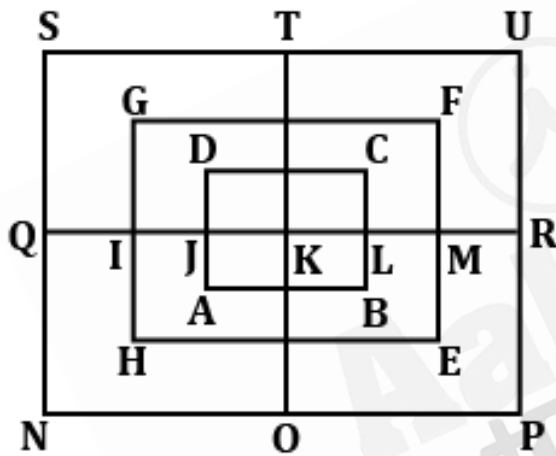
35. How many squares are there in the figure given below ?



- a) 10
- b) 12
- c) 15
- d) 17

Answer (b)

Sol.



Till now 12 squares Now $ABCD$, $EFGH$ and $IJKL$ are three more squares total 15 squares.

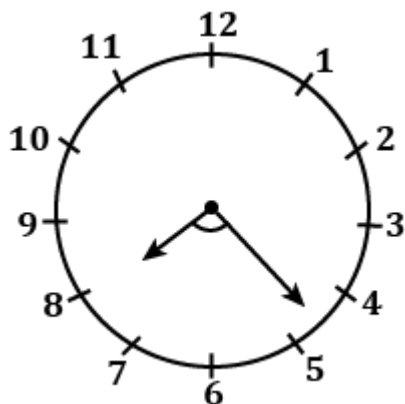
36. What will be angle between the hour hand and the minute hand, of a clock at the time 8: 24?

- a) 105°

- b) 108°.
- c) 132°.
- d) 156°.

Answer (b)

Sol.



$$\text{Angle} = \left| 11 \times \frac{m}{2} - 30 \times H \right|$$

$$= \left| 11 \times \frac{24}{2} - 30 \times 8 \right|$$

$$= |132 - 240|$$

$$= |-108|$$

$$= 108.$$

Option (b)

37. If one-fourth of 50% of a number is equal to two-third of 60% of another number, then what will be the ratio of first number to second number ?

- a) 5 : 16
- b) 24 : 5
- c) 16 : 5
- d) 4 : 15

Answer (c)

Sol. Let first number be x and second number be y

A.T.Q

$$x \text{ of } 50\% \times \frac{1}{4} = y \text{ of } 60\% \times \frac{2}{3}$$

$$x \times \frac{50}{100} \times \frac{1}{4} = y \times \frac{60}{100} \times \frac{2}{3}$$

$$\frac{x}{2} \times \frac{1}{4} = y \times \frac{3}{5} \times \frac{2}{3}$$

$$\frac{x}{8} = \frac{2y}{5}$$

$$5x = 16y$$

$$\frac{x}{y} = \frac{16}{5}$$

Option (c)

Questions: (38-40)

Directions : Read the following informations carefully and answer the questions given below :Ram and Kishan are good in both Biology and Chemistry. Ram and Hari are good in both Biology and Physics. Hari, Sachin and Gaurav are good in both physics and Hind. Hari and Gaurav are good in both physics and Mathematics. Sachin and Gaurav are good in both Chemistry and Hindi.

38. Who is good in Physics, Chemistry and Biology?

- a) Ram
- b) Kishan
- c) Sachin
- d) Hari

Answer (a)

Sol.

Name	Subject
Ram	Biology, Chemistry, Physics
Kishan	Biology, Chemistry
Hari	Biology, Chemistry, Hindi, Mathematics
Sachin	Physics, Hindi, Chemistry
Gaurav	Physics, Hindi, Mathematics, Chemistry

39. Who is good in Physics and Mathematics but not in Chemistry ?

	Biology	Chemistry	Physics	Hindi	Mathematics
Ram	✓	✓	✓		
Kishan	✓	✓			
Hari	✓		✓	✓	✓
Sachin		✓	✓	✓	
Gaurav		✓	✓	✓	✓

- a) Gaurav
- b) Hari
- c) Sachin
- d) Ram

Answer (b)

Sol. Hari

40. Who is good in Physics, Biology and Hindi.

- a) Ram
- b) Sachin
- c) Hari
- d) Gaurav

Answer (c)

Sol. Hari

Questions: (41-42)

Directions : In each of the following question, four words are given, out of which three are alike in some manner and the fourth one is different choose the odd one

- 41.**
- a) Ton
 - b) Gallon
 - c) Gram
 - d) Kilogram

Answer (b)

Sol. Except option (2) all others are used to measure Solid objects while gallon is used to measure liquid things hence option (2) is correct.

- 42.**
- a) Africa
 - b) Australia
 - c) America
 - d) China

Answer (d)

Sol. Except China all others are continents hence option (d) is correct.

Questions: (43-44)

Directions : In each of the following questions pairs of numbers are given, out of which, in all pair except one, are similar. In these similar pairs the numbers are related according to a certain rule. Choose the odd pair from these?

43. a) 13 - 31
b) 24 - 42
c) 16 - 61
d) 35 - 58

Answer (d)

Sol. Here all pairs of numbers are Reverse of each other (i.e., 13-31) except option (d) hence it is correct.

44. a) (1,2)
b) (5,26)
c) (9, 72)
d) (11,122)

Answer (c)

Sol. (1,2) here $1^2 + 1 = 2$
(5,26) here $5^2 + 1 = 26$
(9,72) here $9^2 + 1 = 82$ Not 72 ← odd one out
(11,122) here $11^2 + 1 = 122$
Hence option (c) is correct.

Questions: (45-47)

Directions : In each of the following questions, a numbers series is given. .Choose the correct alternative for the missing term from the alternatives given below:

45. 1, 1, 2, 6, 24,?, 720

- a) 60
b) 80
c) 120
d) 160

Answer (c)

Sol.

$$\begin{array}{ccccccccc} 1 & 1 & 2 & 6 & 24 & ? & & 720 \\ \underbrace{\hspace{1.5cm}} & \underbrace{\hspace{1.5cm}} & \underbrace{\hspace{1.5cm}} & \underbrace{\hspace{1.5cm}} & \underbrace{\hspace{1.5cm}} & & & \\ \times 1 & \times 2 & \times 3 & \times 4 & \times 5 & & & \end{array}$$

So $24 \times 5 = 120$ option (c) is correct.

46. 3, 7, 15, 27, 43, ?

- a) 53
- b) 56
- c) 60
- d) 63

Answer (d)

Sol.

$$\begin{array}{ccccccccc} 3, & 7, & 15, & 27, & 43, & ? \\ \underbrace{\hspace{1.5cm}} & \underbrace{\hspace{1.5cm}} & \underbrace{\hspace{1.5cm}} & \underbrace{\hspace{1.5cm}} & \underbrace{\hspace{1.5cm}} & \\ +4 & +8 & +12 & +16 & +20 & \end{array}$$

So $43 + 20 = 63$ Option(d) is correct.

47. 41, 57, 43, 56, 45, 55, 47, 54, 49, 53 ?

- a) 51
- b) 53
- c) 54
- d) 55

Answer (a)

Sol.

$$\begin{array}{ccccccccccccc} & & \underbrace{\hspace{2cm}} & & \underbrace{\hspace{2cm}} & & \underbrace{\hspace{2cm}} & & \underbrace{\hspace{2cm}} & & \underbrace{\hspace{2cm}} & & & \\ 41 & 57 & 43 & 56 & 45 & 55 & 47 & 54 & 49 & 53 & ? \\ \underbrace{\hspace{1.5cm}} & \underbrace{\hspace{1.5cm}} & \underbrace{\hspace{1.5cm}} & \underbrace{\hspace{1.5cm}} & \underbrace{\hspace{1.5cm}} & \underbrace{\hspace{1.5cm}} & \underbrace{\hspace{1.5cm}} & \underbrace{\hspace{1.5cm}} & \underbrace{\hspace{1.5cm}} & \underbrace{\hspace{1.5cm}} & \end{array}$$

Here we are getting two series, Now

$$\begin{array}{ccccccccc} 41 & & 43 & & 45 & & 47 & & 49 \\ \underbrace{\hspace{1.5cm}} & \underbrace{\hspace{1.5cm}} & \underbrace{\hspace{1.5cm}} & \underbrace{\hspace{1.5cm}} & \underbrace{\hspace{1.5cm}} & \underbrace{\hspace{1.5cm}} & \underbrace{\hspace{1.5cm}} & \underbrace{\hspace{1.5cm}} & \underbrace{\hspace{1.5cm}} \\ & +2 & & +2 & & +2 & & +2 & & +2 & \end{array}$$

So $49 + 2 = 51$ option (a) is correct

Questions: (48-50)

Directions : In each of the following questions, there is a certain relation between two given words on left side of sign (:) and one word is given on right of sign (::) word another word is to be found from the given alternatives, having the same relation this word as the given pair has. Chosen the correct alternative .

48. Arunachal Pradesh : Itanagar :: Nagaland : ?

- a) Dispur
- b) Kohima
- c) Shilong
- d) Imphal

Answer (b)

Sol. Capital of Arunachal Pradesh is Itanagar and Capital of Nagaland is Kohima.
Hence option (b) is correct.

49. Country : President :: State : ?

- a) Chief Minister
- b) Prime Minister
- c) Deputy Chief Minister
- d) Governor

Answer (d)

Sol. President is the head of the country and governor is the head of the state.

50. Cube : Cuboid :: Square : ?

- a) Triangle
- b) Rectangle
- c) Circle
- d) Pentagon

Answer (b)

Sol. Option (b) is correct because in cube and cuboid both have 12 sides similarly in square and rectangle both have 4 sides.