

NUMBER SERIES

Series Number Sequence: Concepts & Tricks

Questions on number series are prevalent in most of the Entrance exams. These questions are based on numerical sequences that follow a logical rule/ pattern based on elementary arithmetic concepts. A particular series is given from which the pattern must be analyzed. You are then asked to predict the next number in the sequence following the same rule. Generally, there are three types of questions asked from the number series:

1. A numerical series is given in which a number is wrongly placed. You are asked to identify that particular wrong number.
2. A numerical series is given in which a specific number is missing. You are required to find out that missing number.
3. A complete numerical series is followed by an incomplete numerical series. You need to solve that incomplete numerical series in the same pattern in which the complete numerical series is given.

Different types of Number Series:

The most common patterns followed by number series are:

- Series consisting of Perfect Squares:

A series based on Perfect squares is most of the times based on the perfect squares of the numbers in a specific order & generally one of the numbers is missing in this type of series.

Example: 324, 361, 400, 441, ?

Sol: $324 = 18^2$, $361 = 19^2$, $400 = 20^2$, $441 = 21^2$, $484 = 22^2$

- Perfect Cube Series:

It is based on the cubes of numbers in a particular order and one of the numbers is missing in the series.

Example: 512, 729, 1000, ?

Sol: 8^3 , 9^3 , 10^3 , 11^3

- Geometric Series:

It is based on either descending or ascending order of numbers and each successive number is obtained by dividing or multiplying the previous number by a specific number.

Example: 4, 36, 324, 2916?

Sol: $4 \times 9 = 36$, $36 \times 9 = 324$, $324 \times 9 = 2916$, $2916 \times 9 = 26244$.

- Arithmetic Series:

It consists of a series in which the next term is obtained by adding/subtracting a constant number to its previous term. Example: 4, 9, 14, 19, 24, 29, 34 in which the number to be added to get the new number is 5. Now, we get an arithmetic sequence 2, 3, 4, 5.

- Two-stage Type Series:

In a two step Arithmetic series, the differences of consecutive numbers themselves form an arithmetic series.

Example: 1, 3, 6, 10, 15.....

Sol: $3 - 1 = 2$, $6 - 3 = 3$, $10 - 6 = 4$, $15 - 10 = 5$

Now, we get an arithmetic sequence 2, 3, 4, 5

- Mixed Series:

This particular type of series may have more than one pattern arranged in a single series or it may have been created according to any of the unorthodox rules.

Example: 10, 22, 46, 94, 190, ?

Sol:

$$10 \times 2 = 20 + 2 = 22,$$

$$22 \times 2 = 44 + 2 = 46,$$

$$46 \times 2 = 92 + 2 = 94,$$

$$94 \times 2 = 188 + 2 = 190,$$

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$$190 \times 2 = 380 + 2 = 382.$$

So the missing number is 382.

- **Arithmetico –Geometric Series :**

As the name suggests, Arithmetico –Geometric series is formed by a peculiar combination of Arithmetic and Geometric series. An important property of Arithmetico- Geometric series is that the differences of consecutive terms are in Geometric Sequence.

Example: 1, 4, 8, 11, 22, 25, ?

Sol :Series Type +3 , X2 (i.e Arithmetic and Geometric Mixing)

$$1 + 3 = 4, 4 \times 2 = 8, 8 + 3 = 11, 11 \times 2 = 22, 22 + 3 = 25, 25 \times 2 = 50$$

Geometrico - Arithmetic Series is the reverse of Arithmetico - Geometric Series. The differences of successive terms are in Arithmetic Series.

Example: 1, 2, 6, 36, 44, 440, ?

Sol :Series Type - X 2, + 4, X 6, +8 , X 10

$$1 \times 2 = 2, 2 + 4 = 6, 6 \times 6 = 36, 36 + 8 = 44, 44 \times 10 = 440, 440 + 12 = 452$$

- **Twin/Alternate Series :**

As the name of the series specifies, this type of series may consist of two series combined into a single series. The alternating terms of this series may form an independent series in itself.

Example: 3, 4, 8, 10, 13, 16 ? ?

Sol: As we can see, there are two series formed

Series 1 : 3, 8, 13 with a common difference of 5

Series 2 : 4, 10, 16 with a common difference of 6

So, next two terms of the series should be 18 & 22 respectively.

NUMBER SERIES METHODS SHORTCUT TRICKS

Important Points to remember:

i). If numbers are in ascending order in the number series.

- Numbers may be added or multiplied by certain numbers from the first number.

SET – I:

Step 1 : Check whether it is ascending , descending or mixed order.

Example 1:

1. 19 23 26 30 33 ?

19 23 26 30 33 37



Step 2 : It is in ascending order. So add or multiply by certain numbers from the first number.

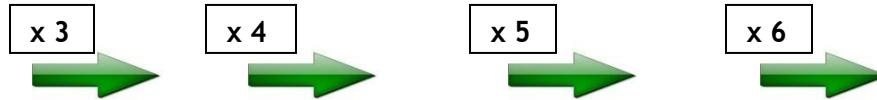
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Step 3 : The difference between first number and second, and difference between second and third and so on., are in increasing order of +4 and +3

Step 4: Hence the answer for above series is 37.

Example 2:

2) 1	3	12	60	?
1	3	12	60	360



Step 1 : Check whether it is ascending , descending or mixed order.

Step 2 : It is in ascending order. So add or multiply by certain numbers from the first number.

Step 3 : By adding first number and second, and second and third and so on., it is not in the sequence of increasing order.

Try multiplication

Step 4: Take 1 and 3, let's start multiplying $1 \times 3 = 3$, by seeing this we get to know, by multiplying 3×4 it gives 12, and $12 \times 5 = 60$.

Step 4: Hence the answer for above series is 360.

ii). If numbers are in descending order in the number series,

- numbers may be subtracted or divided by certain numbers from the first number.

SET – II :

Step 1 : Find whether the given number is in descending order.

Example 3:

3). 34 18 10 6 4 ?

34 18 10 6 4 3



Step 2 : It is in descending order . So subtract or divide by certain numbers from the first number.

Step 3: The difference between first number and second, and difference between second and third and so on, are in order of -16,-8,-4,-2

Step 4: Hence the answer for above series is 3.

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Example 4:

4. 720 120 24 6 2 1 ?

720 120 24 6 2 1

$/ 6$



$/ 5$

$/ 4$



Step 1 : Check whether it is ascending , descending or mixed order.

Step 2 : It is in descending order. So subtract or divide by certain numbers from the first number.

Step 3 : By dividing first number by 6 it gives 120.

Divide $120/5=24$, $24/4=6$, $6/3=2$, $2/2=1$.It is in decreasing order. **Step 4:** Hence the answer for above series is 1

iii. If numbers are in mixing order (increasing and decreasing) in the number series.

- Numbers may be in addition, subtraction, multiplication and division in the alternate numbers.

Example 5:

200 165 148 117 104 ?

200 165 148 117 104 77

$(14)2+4$

$(13)2-4$

$(12)2+4$

$(11)2-4$

$(10)2+4$

$(9)2-4$



Step 1 : Check whether it is ascending , descending or mixed order.

Step 2 : It is in mixing order. So it may be in addition, subtraction, division and multiplication, squares and cubes.

Step 3 : In above series it is mixing of square, addition and subtraction. $(14)2= 196+4= 200$

$(13)2=169$. By adding 4 it gives 173. Try subtraction.

$169-4=165$

Here we found it is in order of squaring a number, adding by 4 and subtracting by 4. **Step 4:** Hence the answer for above series is 77.

NUMBER SERIES QUESTIONS PRATICE

1. Direction: What should come in place of question mark (?) in the following number series?

100, 198, 294, 388, 480, 570, ?

- A. 652
- B. 654
- C. 656
- D. 658
- E. 662

2.Direction: What should come in place of question mark (?) in the following number series?

7, 19, 37, 61, 91, 127, ?

- A. 147
- B. 159
- C. 169
- D. 174
- E. 183

3.Directions: What should come in place of the question mark (?) in the following number series?

620, 632, 608, 644, 596, ?

- A. 536
- B. 556
- C. 656
- D. 646
- E. None of these

4.Directions: What should come in place of the question mark (?) in the following number series?

12, 14 , 32, 102, 416, 2090, ?

- A. 15522
- B. 12552
- C. 13525
- D. 17552
- E. None of these

5.Direction: In the following number series, a wrong number is given. Find out that wrong number.

3, 5, 8, 14, 24, 43, 70

- A. 14
- B. 24
- C. 43
- D. 70
- E. 5

6. Which term doesn't fit the given series 0, 3, 8, 15, 24, 36, 48

- A. 3
- B. 8
- C. 15
- D. 24
- E. 36

7.Which term doesn't fit the given series

15, 48, 105, 192, 315, 470

- A. 48
- B. 105
- C. 192
- D. 315
- E. 470

8.Direction: A number series is mentioned in each of the below question. There is one wrong element in each series. Find out that element.

3 54 295 1180 3597 7198

- A. 54
- B. 295
- C. 1180
- D. 3597
- E. 7198

9. Direction: A number series is mentioned in each of the below question. There is one wrong element in each series. Find out that element.

27 28 32 64 315 3440

- A. 28
- B. 32
- C. 64
- D. 315
- E. 3440

10. Directions: In the following number-series only one number is wrong. If the wrong number is corrected, the series gets established following a certain logic. Below the series a number is given followed by (a), (b), (c), (d), and (e). You have to complete the series following the same logic as in the given series after correcting the wrong number. What should come at the place of (e) in the following question?

12162.15, 810.81, 62.37, 5.95, .63, .09
148648.5, (a), (b), (c), (d), (e)

- A. 1.1
- B. 11
- C. 1.21
- D. 1.56
- E. None of these

11. Direction: In the following number series, a wrong number is given. Find out that wrong number.

78, 123, 192, 298, 460, 673

- A. 78
- B. 298
- C. 192
- D. 460
- E. 673

12. Directions: In the following number-series only one number is wrong. If the wrong number is corrected, the series gets established following a certain logic. Below the series a number is given followed by (a), (b), (c), (d), and (e). You have to complete the series following the same logic as in the given series after correcting the wrong number. What should come at the place of (d) in the following question?

16710, 2660, 468, 90, 25, 10 21030, (a), (b), (c), (d), (e)

- A. 65
- B. 54
- C. 34
- D. 56
- E. None of these

13. Directions: In the following number-series only one number is wrong. If the wrong number is corrected, the series gets established following a certain logic. Below the series a number is given followed by (a), (b), (c), (d), and (e). You have to complete the series following the same logic as in the given series after correcting the wrong number. What should come at the place of (e) in the following question?

21, 23, 73, 364, 2605, 23455
18, (a), (b), (c), (d), (e)

- A. 20520
- B. 21740
- C. 20620
- D. 21540
- E. 22860

14. Directions: In the following number-series only one number is wrong. If the wrong number is corrected, the series gets established following a certain logic. Below the series a number is given followed by (a), (b), (c), (d), and (e). You have to complete the series following the same logic as in the given series after correcting the wrong number. What should come at the place of (d) in the following question?

1561, 1671, 1827, 2057, 2309, 2651 2152, (a), (b), (c), (d), (e)

- A. 3100
- B. 2165
- C. 2258
- D. 2900
- E. 2300

15. Directions: In the following number-series only one number is wrong. If the wrong number is corrected, the series gets established following a certain logic. Below the series a number is given followed by (a), (b), (c), (d), (e) and (f). You have to complete the series following the same logic as in the given series after correcting the wrong number. What should come at the place of (f) in the following question?

882, 700, 568, 512, 490, 470, 464 642, (a), (b), (c), (d), (e), (f)

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A. 270

B. 266

C. 225

D. 224

E. None of these

16. Direction: What should come in place of question mark (?) in the following number series?

4, 3, 3.5, 4.75, ?, 8.1875

A. 6.75

B. 6.375

C. 5.25

D. 4.75

E. 7.50

17. Direction: What will come in place of the question mark (?) in the following number series?

10, 16.5, 35, 90, 273, ?

A. 954

B. 925

C. 959

D. 965

E. 975

18. Direction: What will come in place of the question mark (?) in the following number series?

1219, 1225, 1245, 1287, 1359, (?)

A. 1454

B. 1479

C. 1484

D. 1469

E. None of these

19. Direction: What will come in place of the question mark (?) in the following number series?

17, 18, 26, 53, 117, ?, 458

A. 342

B. 142

C. 257

D. 262

E. 242

20. Direction: What will come in place of the question mark (?) in the following number series?

8000, 1600, 320, 64, 12.8, ?

A. 2.56

B. 3.5

C. 3.2

D. 2.98

E. None of these

21. Direction: What will come in place of the question mark (?) in the following number series?

121, ?, 81, 64, 49, 36, 25

A. 92

B. 114

C. 98

D. 100

E. None of these

22. Direction: What will come in place of the question mark (?) in the following number series?

20, 24, 36, 56, 84, ?

A. 116

B. 124

C. 120

D. 128

E. None of These

23. Direction: What will come in the place of question mark (?) in the following number series?

3, 10, 24, 50, 120, ?

A. 130

B. 140

C. 150

D. 160

E. 170

24. Direction: What will come in place of the question mark (?) in the following number series?

4000, 2008, 1012, ?, 265, 140.5, 78.25

A. 506

B. 514

C. 520

D. 512

E. None of these

25. Direction: What will come in place of the question mark (?) in the following number series?

56, 55, 108, 321, ?, 6395

A. 1278

B. 1276

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C. 1274

D. 1292

E. 1280

26. Direction: What will come in place of the question mark (?) in the following number series?

3, 1, 5, -1, 7, -3, ?

A. 9

B. 8

C. 6

D. 4

E. 2

27. Direction: What should come in place of question mark (?) in the following number series?

30, 35, 65, 100, 165, 265, ?

A. 270

B. 520

C. 430

D. 395

E. None of these

28. Direction: What will come in place of the question mark (?) in the following number series?

3, 5, 13, 43, 177, ?, 5353

A. 891

B. 713

C. 885

D. 899

E. None of these

29. Direction: What will come in the place of question mark (?) in the following number series?

13 16 22 24 28 ?

A. 27

B. 36

C. 30

D. 32

E. None of these

30. Directions: The following number series has a wrong number in it. Find out that wrong number and mark your answer accordingly:

3,4,11,25,47,76,119

A. 3

B. 4

C. 25

D. 47

E. 76

31. Directions: The following number series has a wrong number in it. Find out that wrong number and mark your answer accordingly:

6, 3.5, 4.5, 11, 50, 392

A. 6

B. 11

C. 50

D. 392

E. 4.5

32. Direction: What will come in place of the question mark (?) in the following number series?

0, 6, 24, 60, 120, 210, ?

A. 336

B. 343

C. 322

D. 330

E. None of these

33. Direction: What will come in place of the question mark (?) in the following number series?

350, 365, 335, 380, ?

A. 340

B. 310

C. 320

D. 345

E. None of these

34. 6, 31, 80, 161, 282, (?)

A. 472

B. 479

C. 451

D. 432

E. None of these

35. 8, 8, 12, 24, ?

A. 28

B. 42

C. 32

D. 60

E. None of these

36. Direction: What will come in place of the question mark (?) in the following number series?

1, 2, 6, 21, 88, (?)

A. 360

B. 420

C. 340

D. 445

E. None of these

37. Direction: What will come in place of the question mark (?) in the following number series?

12, 8, 16, ..., 184, 860

- A. 32
- B. 48
- C. 128
- D. 420
- E. None of these

38. Direction: What will come in place of the question mark (?) in the following number series?

21, 44, 129, 520, 2595, ?

- A. 15476
- B. 15576
- C. 15376
- D. 15276
- E. 15176

39. Direction: What will come in place of the question mark (?) in the following number series?

51, 61, 84, ?, 165, 221

- A. 119
- B. 115
- C. 125
- D. 128
- E. None of these

40. Direction: What will come in place of the question mark (?) in the following number

series?

2, 0, -2, -8, -40, ?

- A. -320
- B. -105
- C. -336
- D. -170
- E. -190

41. Direction: What will come in place of the question mark (?) in the following number series?

9, 13, 4, 20, ?, 31

- A. 5
- B. -5
- C. 25
- D. -21
- E. None of these

42. Direction: What will come in place of the question mark (?) in the following number series?

15, 26, 48, ?, 180, 356

- A. 95
- B. 78
- C. 65
- D. 92
- E. None of these

43. Direction: In the following number series, a wrong number is given. Find out that wrong number.

221725, 8850, 549, 56, 9, 4

- A. 4
- B. 8850
- C. 56
- D. 549
- E. 9

44. Direction: In the following number series, a wrong number is given. Find out that wrong number.

24, 28.8, 40.32, 64.512, 118.1216, 232.2432

- A. 40.32
- B. 64.512
- C. 24
- D. 118.1216
- E. 28.8

45. Direction: In the following number series, a wrong number is given. Find out that wrong number.

81, 54, 54, 72, 121, 240

- A. 54
- B. 240
- C. 121
- D. 72
- E. 81

46. Direction: What will come in place of the question mark (?) in the following number series?

4, 6, 12, ?, 90, 315

- A. 25
- B. 27
- C. 30
- D. 45
- E. None of these

47. Directions: What should come in the place of question mark (?) in the following number series?

1200 480 192 76.8 30.72 12.288 ?

- A. 4.9152 B. 5.8192
C. 6.7112 D. 7.6132
E. 8.5172

48. Direction: In the following number series, a wrong number is given. Find out that wrong number.

48, 24, 24, 36, 72, 180, 540

- A. 24 B. 28
C. 36 D. 72
E. 180

49. Direction: What will come in place of the question mark (?) in the following number series?

655, 439, 314, 250, 223, (?)

- A. 205 B. 210
C. 195 D. 190
E. None of these

50. Direction: What will come in place of the question mark (?) in the following number series?

43 69 58 84 73 (?)

- A. 62 B. 98
C. 109 D. 63
E. None of these

SOLUTIONS

1. **Ans. D.**

$$1*100 = 100 \quad 2*99 = 198 \quad 3*98 = 294 \quad 4*97 = 388$$

$$5*96 = 480 \quad 6*95 = 570 \quad 7*94 = 658$$

2. **Ans. C.**

$$1^2 + 2^2 + 1*2 = 7$$

$$2^2 + 3^2 + 2*3 = 19$$

$$3^2 + 4^2 + 3*4 = 37$$

$$4^2 + 5^2 + 4*5 = 61$$

$$5^2 + 6^2 + 5*6 = 91$$

$$6^2 + 7^2 + 6*7 = 127$$

$$7^2 + 8^2 + 7*8 = 169$$

3. **Ans. C.**

$$620 \quad 632 \quad 608 \quad 644 \quad 596 \quad ?$$

$$620 + 12 \times 1 = 632$$

$$632 - (12 \times 2) \quad 24 = 608$$

$$608 + (12 \times 3) \quad 36 = 644$$

$$644 - (12 \times 4) \quad 48 = 596$$

$$596 + (12 \times 5) \quad 60 = 656$$

(Alternatively + and – are used; multiple of 12 in increasing order).

4. **Ans. B.**

$$12 \times 1 + 2 = 14$$

$$14 \times 2 + 4 = 32$$

$$32 \times 3 + 6 = 102$$

$$102 \times 4 + 8 = 416$$

$$416 \times 5 + 10 = 2090$$

$$2090 \times 6 + 12 = 12552$$

$$\text{So, } ? = 12552$$

5. **Ans. B.**

$$3, 5, 8, 14, 24, 43, 70$$

Taking difference

$$5-3=2$$

$$8-5=3$$

$$14-8=6$$

$$25-14=11$$

$$43-25=18$$

$$70-43=27$$

$$108-70=38$$

Again taking difference:

$$3-2=1$$

$$6-3=3$$

$$11-6=5$$

$$18-11=7$$

$$27-18=9$$

$$38-27=11$$

6. **Ans. E.**

$$0*2 = 0$$

$$1*3 = 3$$

$$2*4 = 8$$

$$3*5 = 15$$

$$4*6 = 24$$

$$5*7 = 35$$

$$6*8 = 48$$

7. **Ans. E.**

$$1*3*5 = 15$$

$$2*4*6 = 48$$

$$3*5*7 = 105$$

$$4*6*8 = 192$$

$$5*7*9 = 315$$

$$6*8*10 = 480$$

8. **Ans. C.**

$$3*6 + 6^2 = 54$$

$$54*5 + 5^2 = 295$$

$$295*4 + 4^2 = 1196$$

$$1196*3 + 3^2 = 3597$$

$$3597*2 + 2^2 = 7198$$

9. **Ans. C.**

$$27+1= 28$$

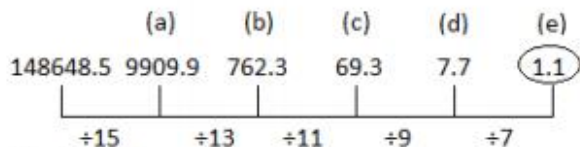
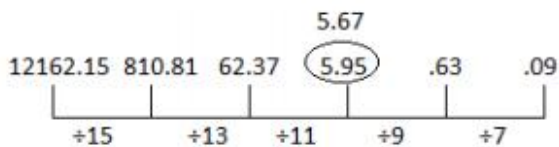
$$28+2^2=32$$

$$32 + 3^3 = 59$$

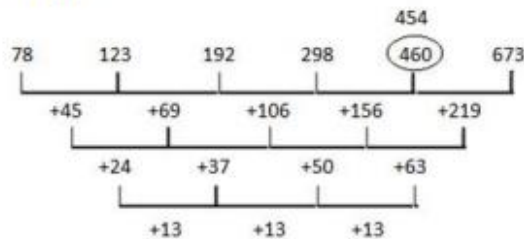
$$59 + 4^4 = 315$$

$$315 + 5^5 = 3440$$

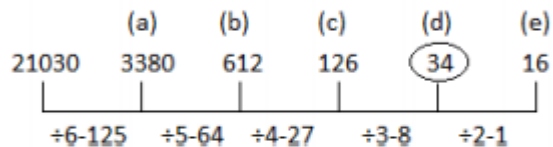
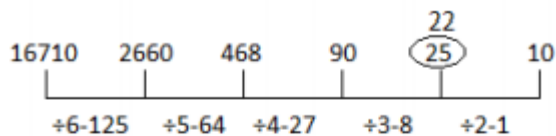
10. Ans. A.



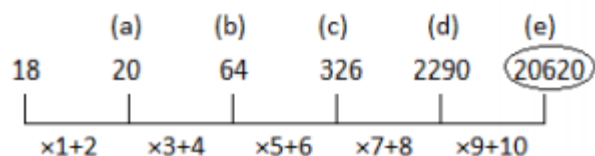
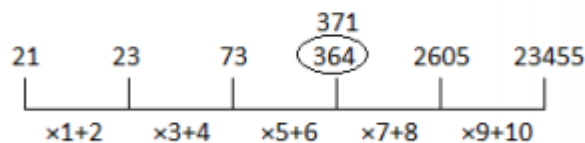
11. Ans. D.



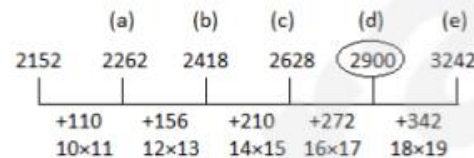
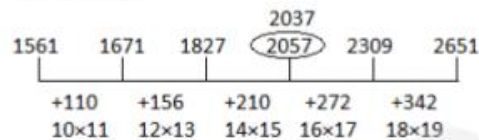
12. Ans. C.



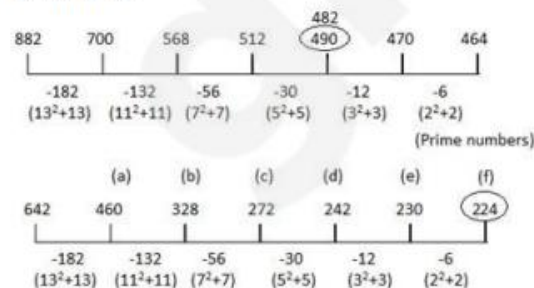
13. Ans. C.



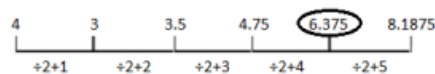
14. Ans. D.



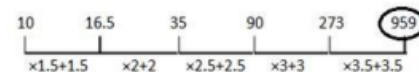
15. Ans. D.



16. Ans. B.



17. Ans. C.



18. Ans. D.

1219, 1225, 1245, 1287, 1359, (1469)
 +6 +20 +42 +72 (+110)
 +14 +22 +30 (+38)

19. Ans. E.

17 + (1)³ = 18
 18 + (2)³ = 26
 26 + (3)³ = 53
 53 + (4)³ = 117
 117 + (5)³ = 242
 242 + (6)³ = 458

20. Ans. A.

8000 ÷ 5 = 1600
 1600 ÷ 5 = 320
 320 ÷ 5 = 64
 64 ÷ 5 = 12.8
 12.8 ÷ 5 = 2.56
 So, ? = 12.8 ÷ 5 = 2.56

21. Ans. D.

121 = (11)²

100 = (10)²

81 = (9)²

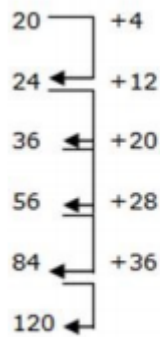
64 = (8)²

49 = (7)²

36 = (6)²

25 = (5)²

22. Ans. C.



Hence option C is correct

23. Ans. E.

In this question, we have to take the prime numbers starting from 2. Then square the prime number and subtract 1 from it. For the next number, take the next prime number, square it and add 1 in it. It will happen alternately.

$$\begin{matrix} 3 & 10 & 24 & 50 & 120 & 170 \\ (2^2-1) & (3^2+1) & (5^2-1) & (7^2+1) & (11^2-1) & (13^2+1) \end{matrix}$$

For the answer, we shall square 13 which will give us 169 and then we shall add 1 in it.

170 is the right answer.

24. Ans. B.

Here, the series is $(\div 2, + 8)$.

Therefore,

$$4000, 2008, 1012, ?, 265, 140.5, 78.25$$

$$4000 \div 2 = 2000 + 8 = 2008$$

$$2008 \div 2 = 1004 + 8 = 1012$$

$$1012 \div 2 = 506 + 8 = \mathbf{514}$$

$$514 \div 2 = 257 + 8 = 265$$

$$265 \div 2 = 132.5 + 8 = 140.5$$

$$140.5 \div 2 = 70.25 + 8 = 78.25$$

Hence, option (B) is correct.

25. Ans. E.

The pattern for the first sequence is:

(1st term $\times 1$) - 1, (2nd term $\times 2$) - 2, (3rd term $\times 3$) - 3, (4th term $\times 4$) - 4,

Therefore,

$$(56 \times 1) - 1 = 55$$

$$(55 \times 2) - 2 = 108$$

$$(108 \times 3) - 3 = 321$$

$$(321 \times 4) - 4 = 1280$$

$$(1280 \times 5) - 5 = \mathbf{6395}$$

Hence the answer is option (E).

26. Ans. A.

Multiples of 2 have been alternatively subtracted and added to get the next term.

$$3 - 2 = 1$$

$$1 + 4 = 5$$

$$5 - 6 = -1$$

$$-1 + 8 = 7$$

$$7 - 10 = -3$$

$$-3 + 12 = 9$$

27. Ans. C.



28. Ans. A.

Pattern of the number series is

$$3 \times 1 + 2 = 5$$

$$5 \times 2 + 3 = 13$$

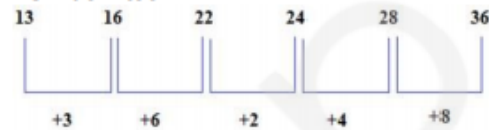
$$13 \times 3 + 4 = 43$$

$$43 \times 4 + 5 = 177$$

$$177 \times 5 + 6 = 891$$

29. Ans. B.

In this question, the next number comes after adding the last digit of the first number to the number itself.



On adding 8 to 28, we shall get 36 which is the correct option.

30. Ans. E.

$$3, 4, 11, 25, 47, 76, 119$$

$$4 - 3 = 1$$

$$11 - 4 = 7$$

$$25 - 11 = 14$$

$$47 - 25 = 22$$

$$76 - 47 = 29$$

$$119 - 76 = 72$$

Now taking difference of difference:

$$7 - 1 = 6$$

$$14 - 7 = 7$$

$$22 - 14 = 8$$

but $29 - 22 = 7$ which instead should be 9 therefore

76 is wrong, it should be 78

31. Ans. C.

$$6 \times 0.5 + 0.5 = 3.5$$

$$3.5 \times 1 + 1 = 4.5$$

$$4.5 \times 2 + 2 = 11$$

$$11 \times 4 + 4 = 48$$

$$48 \times 8 + 8 = 392$$

32. Ans. A.

The given series is : $1^3 - 1, 2^3 - 2, 3^3 - 3, 4^3 - 4, 5^3 - 5, 6^3 - 6,$

So the missing term = $7^3 - 7 = 343 - 7 = 336$.

33. Ans. C.

This series is based upon:

$$350 + 15, 365 - 30, 335 + 45, 380 - 60 = 320.$$

So answer is 320

34. Ans. C.

The pattern is

$$6 + 5^2 = 31$$

$$31 + 7^2 = 80$$

$$80 + 9^2 = 161$$

$$161 + 11^2 = 282$$

So the missing term is = $282 + 13^2 = 451$.

35. Ans. D.

This series is based upon:

$$8 \times 1 = 8, 8 \times 1.5 = 12, 12 \times 2 = 24, 24 \times 2.5 = 60.$$

So answer is 60

36. Ans. D.

The pattern is $*1+1, *2+2, *3+3, *4+4,$

So the missing term is $= 88 \times 5 + 5 = 445$

37. Ans. B.

Solution-

The pattern of the series

$$12 \times 0.5 + 2 = 8$$

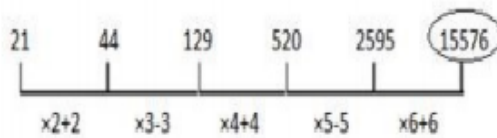
$$8 \times 1.5 + 4 = 16$$

$$16 \times 2.5 + 8 = 48$$

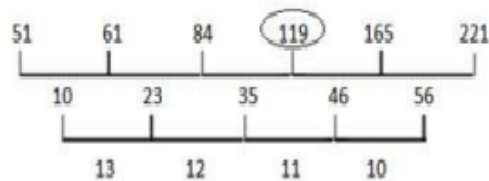
$$48 \times 3.5 + 16 = 184$$

$$184 \times 4.5 + 32 = 860$$

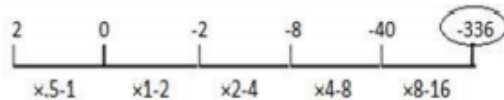
38. Ans. B.



39. Ans. A.



40. Ans. C.

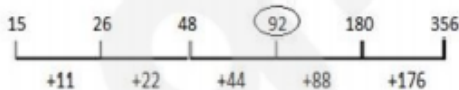


41. Ans. B.



Hence option B is the right answer.

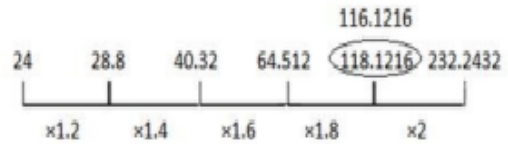
42. Ans. D.



43. Ans. B.



44. Ans. D.



45. Ans. C.

$$81 \times \frac{2}{3} = 54$$

$$54 \times \frac{3}{3} = 54$$

$$54 \times \frac{4}{3} = 72$$

$$72 \times \frac{5}{3} = 120$$

$$120 \times \frac{6}{3} = 240$$

46. Ans. C.

$$4 \ 6 \ 12 \ ? \ 90 \ 315$$

$$4 \times 1.5 = 6$$

$$6 \times 2 = 12$$

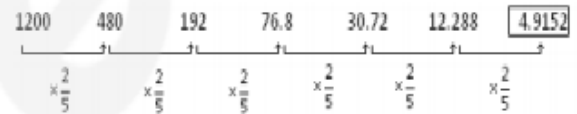
$$12 \times 2.5 = 30$$

$$30 \times 3 = 90$$

$$90 \times 3.5 = 315$$

Thus, 4 6 12 **30** 90 315

47. Ans. A.



48. Ans. B.

$$48 \ 24 \ 28 \ 36 \ 72 \ 180 \ 540$$

$$48 \times 0.5 = 24$$

$$24 \times 1 = 24$$

$$24 \times 1.5 = 36$$

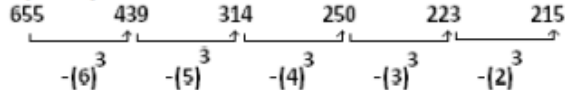
$$36 \times 2 = 72$$

$$72 \times 2.5 = 180$$

$$180 \times 3 = 540$$

So 28 is wrong number.

49. Ans. E.



50. Ans. E.

The pattern of the number series is:

$$69 - 43 = 26$$

$$58 - 69 = -11$$

$$84 - 58 = 26$$

$$73 - 84 = -11$$

$$\Rightarrow ? = 73 + 26 = 99$$