Quantitative Aptitude

Missing Number Series

Level-1

Q1 **Directions: Find the missing term (?) in the given series.**
140 , 169 , ? , 257 , 316 , 385 .
(A) 207 (B) 208
(C) 209 (D) 210
(E) None of these

Q2 **Directions: Study the following data carefully and answer the questions accordingly.**
Find the missing term in the given series
17, 21, 26, 32, 39, 47, ____, 66
(A) 55 (B) 56
(C) 57 (D) 58
(E) None of these

Q3 *What will come in place of '?' in the given question?*
58, 138, 178, 198, 208, ?
(A) 228 (B) 213
(C) 218 (D) 248
(E) 259

Q4 What will come in place of question mark in the following number series?
9, 11, 22, 51, 107, ?
(A) 225 (B) 154
(C) 125 (D) 199
(E) 210

Q5 What will come in place of question mark in the following number series?
112, 225, 345, 479, 634, ?
(A) 854 (B) 817
(C) 652 (D) 859
(E) 742

Q6 Find the missing term.
656 , 432 , 320 , 264 , 236 , ?
(A) 230 (B) 223
(C) 232 (D) 229
(E) 222

Q7 Find the missing term.
10080 , 1440 , 240 , ? , 12 , 4
(A) None of these (B) 52
(C) 48 (D) 40
(E) 46

Q8 Find the missing term.
10, 12, 15, 20, 27, 38, ?
(A) None of these (B) 51
(C) 49 (D) 55
(E) 53

Q9 Find the missing term.
12 , 19 , 35 , 59 , 90 , ?
(A) 112 (B) 125
(C) 127 (D) 100
(E) 99

Q10 Find the missing term.
37 , ? , 103 , 169 , 257 , 367
(A) 71 (B) 55
(C) 67 (D) 59
(E) 61

Q11 Find the missing term.
29 , 31 , 37 , 49 , 69 , ?
(A) 88 (B) 103
(C) 94 (D) 99
(E) 108

Q12 Find the missing term.
125, 80, 45, ?, 5
(A) 50 (B) 20
(C) 25 (D) 17
(E) 19

Q13 Find the missing term.

0 , 5 , 18 , 43 , 84 , 145 , ?

(A) 270 (B) 280
(C) 260 (D) 240
(E) 230

Q14 Find the missing term.
62 , 87 , 187 , 412 , 812 , ?

(A) 1458 (B) 1457
(C) 1337 (D) 1437
(E) 1012

Q15 What will come in place of question marks in the following number series?
12, 12, 18, 36, 90, 270, ?

(A) 945 (B) 814
(C) 652 (D) 859
(E) 800

Q16 **Directions: Find the missing term (?) in the given series.**
185 , 266 , 330 , 379 , 415 , ? .

(A) 440 (B) 435
(C) 450 (D) 455
(E) None of these

Q17 **Directions: Find the missing number in the following number series.**
3, 83, 152, 208, 249 , ?

(A) 280 (B) 320
(C) 265 (D) 351
(E) 273

Q18 Directions: What will come in place of the question mark (?) in the following questions?
15, 28, 48, 82, 137, ?

(A) **210** (B) **220**
(C) **230** (D) **200**
(E) None of these

Q19 Find the wrong number in the following number series –
21, 95, 167, 235, 300, 351, 395

(A) 21 (B) 235
(C) 351 (D) 300
(E) None of these

Q20 Directions: What will come in place of the question mark (?) in the following questions?
9600, 1920, 480, ?, 80, 80

(A) 200 (B) 320
(C) 80 (D) 240
(E) 160

Level-2

Q1 Find the missing term.
960 , 839 , 758 , 709 , ? , 675
(A) 684 (B) 678
(C) 688 (D) 700
(E) 696

Q2 *What will come in place of '?' in the given question?*
$5, 10, 17, 26, 37, ?$
(A) 48 (B) 50
(C) 46 (D) 49
(E) 67

Q3 **In each of these questions a number is missing in the series. Find out the missing number.**
10, 20, 22, ? , 46, 92, 94
(A) 44 (B) 24
(C) 40 (D) 26
(E) 48

Q4 **In each of these questions a number is missing in the series. Find out the missing number.**
18, 127, 38, ?, 66 , 731
(A) 375 (B) 365
(C) 345 (D) 355
(E) None of these

Q5 **In each of these questions a number is missing in the series. Find out the missing number.**
181, 361, 720, ? , 2870, 5735
(A) 1347 (B) 1473
(C) 1437 (D) 1374
(E) None of these

Q6 Find the missing term.
7 , 16 , 45 , 184 , 915 , ?
(A) 5496 (B) 5444
(C) 5454 (D) 5555
(E) 5478

Q7 Find the missing term.
15 , 21 , 38 , 65 , 101 , ?
(A) 145 (B) 130
(C) 150 (D) 141
(E) 123

Q8 Find the missing term.
0 , 2 , 8 , 14 , ? , 34 , 48
(A) 24 (B) 25
(C) 26 (D) 23
(E) 22

Q9 Find the missing term.
12 , 14 , 32 , 102 , 416 , 2090 , ?
(A) 12500 (B) 11600
(C) 12552 (D) 13458
(E) 11554

Q10 Find the missing term.
14 , 6 , 5 , 6.5 , 12 , ?
(A) 35 (B) 33
(C) 23 (D) 27
(E) 29

Q11 Find the missing term.
17 , 16 , 30 , 87 , 344 , ?
(A) 1715 (B) 1685
(C) 1660 (D) 1760
(E) 1735

Q12 Find the missing term.
24 , 28 , 19 , 35 , 10 , ?
(A) 15 (B) 46
(C) 16 (D) 36
(E) 26

Q13 Find the missing term.
26 , 12 , 11 , 15.5 , 30 , ?
(A) 78 (B) 82
(C) 74 (D) 68
(E) 72

Q14 Find the missing term.
3 , ? , 14 , 55 , 274 , 1643
(A) 7 (B) 8
(C) 6 (D) 5

(E) 11

Q15 Find the missing term.
39 , 52 , 78 , 117 , 169 , ?
(A) 255 (B) 256
(C) 234 (D) 182
(E) 246

Q16 **A series** 29, 31, 41, 71, 139, 269
If another series__ ,__ ,84, __ , m follows the same pattern as the given number series, then find the value of m.
(A) 182 (B) 132
(C) 172 (D) 194
(E) None of these

Q17 **A series is 8, 7, 10, 21, 68, 315.**
If another series 12, __, __, __, __, m; follows the same pattern as the given number series, then find the value of m.
(A) 878 (B) 600
(C) 546 (D) 795
(E) None of these

Q18 36, 19, 21, 45, Y, 1477
If A + 124 = 2Y – 48, then which of the following will be correct?
(A) A is a perfect square
(B) A is an odd number
(C) A is a prime number
(D) Sum of unit digit and hundred placed digit of A is a prime number
(E) Both (a) and (d)

Q19 9050, 5675, x, 2147, y, 1075, 950
Calculate values of 'x' and 'y', then answer the question that follows. double the value of x let it be 'a'. Then find the sum of a and 6th Term of the given series.
(A) 8033 (B) 1097
(C) 2111 (D) 3521
(E) 2025

Q20 What will come in place of question mark in the following number series?
29, 33, 60, 76, x, y
Find $(x - y)^2$
(A) 1254 (B) 1356
(C) 1296 (D) 1547
(E) 1000

Level-3

Directions (1-2) Read the following passage and answer the given questions.
Directions : Study the following information carefully and answer the questions given beside.
Solve both the series given below and answer the following question.

Series I: a, 182, 132, 56, 30, 12, b

Series II: a + c, a, a – c, a – 2c, a – 3c, b, d

Q1 What is the value of $\frac{a}{c}$?
(A) 2.96 (B) 3.48
(C) 3.78 (D) 4.08
(E) None of these

Q2 What is the value of 'b – d'
(A) $\frac{a}{4}$ (B) b
(C) c (D) 2d
(E) a-d

Directions (3-4) Read the following passage and answer the given questions.
Directions : Study the following information carefully and answer the questions given beside.
Both the series given below follow a similar pattern. Solve both the series and answer the following questions.

I: a, 154, 1548, 12390, 74344, 297378

II: b, c, 490, 4908, d, 235624

Q3 What is the value of "$\frac{d}{a}$"?
(A) 3225.50 (B) 3272.50
(C) 3333.33 (D) 3600
(E) 3728.50

Q4 The series given below follows a particular pattern. What is the value of 'e' in the following series?

$\frac{a}{3}, 4b, \frac{c}{2.50}, 4b^3, e$
(A) 81 (B) 63
(C) 64 (D) 82
(E) 125

Q5 A series is given below, in which P and Q are missing terms.
14, P, 62, Q, 254
If the ratio of P to Q is 5: 21 and Q is 1 more than the cube of 3rd least prime number, then find the next term of the series?
(A) 508 (B) 500
(C) 510 (D) 504
(E) 520

Q6 A series is given below with one wrong term P.
8, 20, 150, 750, 7500, 93750
A new series is formed, whose 1st term is P followed by (1st term + 82), (2nd term - 72), (3rd term + 62) and (4th term - 52). What will be the 5th term of the series?
(A) 776 (B) 34
(C) 93776 (D) 176
(E) 7526

Q7 A series is given below, in which X and Y are missing terms of the series.
18, 37, 75, 151, X, Y
A: Both X and Y are multiple of 3.
B: X = $\frac{Y-1}{2}$
C: Y is a prime number.
(A) Only B and C (B) All A, B and C
(C) Only B (D) Only A and C
(E) Only C

Q8 Direction: Study the data carefully and answer the following question.
A series is given below with missing term P.
325, P, 136, 109, 101, 100

A new series is formed, whose 1st term is P and follows the same pattern as in the given series. Find the 4th term of the new series?

(A) -49 (B) -16
(C) -25 (D) -9
(E) 16

Q9 Direction: Study the data carefully and answer the following question.

A series is given below with missing term P.
8, P, 20, 63, 256, 1285
A new series is formed, whose 1st term is (P - 3) and follows the same pattern. If its n^{th} term is 208, then find the value of 'n'?

(A) 6th term (B) 5th term
(C) None of these (D) 3rd term
(E) 7th term

Q10 Direction: Study the data carefully and answer the following question.

A series is given below, with one missing term.
8, 4, 4, 8, ?, 256
Another series is formed, whose 1st term is the missing term of the given series, followed by (1st term × 0.25), (2nd term × 0.5), (3rd term × 1), (4th term × 2) and so on. What is the 6th term of the new series?

(A) 64 (B) 8
(C) 32 (D) 16
(E) 24

Answer Key

Level-1

Q1	(B)
Q2	(B)
Q3	(B)
Q4	(D)
Q5	(B)
Q6	(E)
Q7	(C)
Q8	(B)
Q9	(C)
Q10	(D)
Q11	(D)
Q12	(B)
Q13	(E)
Q14	(D)
Q15	(A)
Q16	(A)
Q17	(E)
Q18	(B)
Q19	(D)
Q20	(E)

Answer Key

Level-2

Q1	(A)	Q11	(A)
Q2	(B)	Q12	(B)
Q3	(A)	Q13	(C)
Q4	(C)	Q14	(D)
Q5	(C)	Q15	(C)
Q6	(A)	Q16	(A)
Q7	(A)	Q17	(D)
Q8	(A)	Q18	(E)
Q9	(C)	Q19	(A)
Q10	(E)	Q20	(C)

Answer Key

Level-3

Q1	(D)	Q6	(D)
Q2	(C)	Q7	(A)
Q3	(B)	Q8	(B)
Q4	(C)	Q9	(B)
Q5	(C)	Q10	(C)

Hints & Solutions

Level-1

Q1 Text Solution:

140 , 169 , 208 , 257 , 316 , 385

29 39 49 59 69

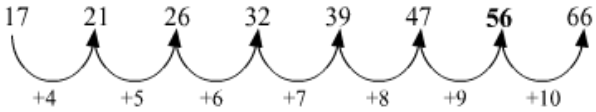
? = 208

Q2 Text Solution:

The given series is

17, 21, 26, 32, 39, 47, ____, 66

This follows the pattern:



Q3 Text Solution:

Here the pattern is,

$138 = 58 + 80$

$178 = 138 + 40$

$198 = 178 + 20$

$208 = 198 + 10$

The next term will be $208 + 5 = 213$

Hence, Option B is Correct

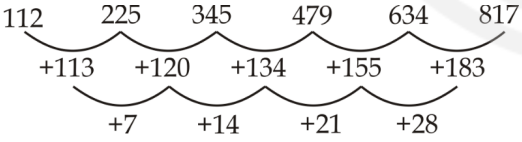
Q4 Text Solution:

9 11 22 51 107 **199**

2 11 29 56 92

9 18 27 36

Q5 Text Solution:



Ans = 817

Q6 Text Solution:

Pattern of the series is as follows :

656 - 224 = 432

432 - 112 = 320

320 - 56 = 264

264 - 28 = 236

236 - 14 = **222**

Q7 Text Solution:

Pattern of the series is as follows :

10080 ÷ 7 = 1440

1440 ÷ 6 = 240

240 ÷ 5 = 48

48 ÷ 4 = 12

12 ÷ 3 = 4

Q8 Text Solution:

Pattern of the series is as follows:

10 + 2 = 12

12 + 3 = 15

15 + 5 = 20

20 + 7 = 27

27 + 11 = 38

38 + 13 = 51

Q9 Text Solution:

Pattern of the series is as follows :

12 + 7 = 19

19 + 16 = 35

35 + 24 = 59

59 + 31 = 90

90 + 37 = 127

Here, 7 + 9 = 16

16 + 8 = 24

24 + 7 = 31

31 + 6 = 37

? = 127

Q10 Text Solution:

Pattern of the series is as follows :

37 + 22 x 1 = **59**

59 + 22 x 2 = 103

103 + 22 x 3 = 169

169 + 22 x 4 = 257

257 + 22 x 5 = 367

? = 59

Q11 Text Solution:

Pattern of the series is as follows :

29 + 2 x 1 = 31

31 + 3 x 2 = 37

37 + 4 x 3 = 49

49 + 5 x 4 = 69

69 + 6 x 5 = 99

? = 99

Q12 Text Solution:

Pattern of the series is as follows:

125 80 45 **20** 5

-45 -35 -25 -15

+10 +10 +10

? = 20

Q13 Text Solution:

Pattern of the series is as follows :

0 5 18 43 84 145 230

+5 +13 +25 +41 +61 +85

+8 +12 +16 +20 +24

+4 +4 +4 +4

? = 230

Q14 Text Solution:

Pattern of the series is as follows :

$62 + (5)^2 = 87$

$87 + (10)^2 = 187$

$187 + (15)^2 = 412$

$412 + (20)^2 = 812$

$812 + (25)^2 = 1437$

Q15 Text Solution:

The given series is

12×1 = 12,

12 ×1.5 = 18,

18 ×2 = 36,

36 ×2.5 =90

90 × 3 = 270

? = 270 × 3.5 = 945

Q16 Text Solution:

185 , 266 , 330 , 379 , 415 , **440**

81 64 49 36 25

Q17 Text Solution:

3 83 152 208 249 **273**

80 69 56 41 24

-11 -13 -15 -17

? = 273

Q18 Text Solution:

The series is di erence of di erence.

15 , 28 , 48 , 82 , 137 , ?

13 20 34 55 83

7 14 21 28

? = 137 + 83 = 220

Q19 Text Solution:

The pattern of the series –

21 95 167 235 297 351 395

+74 +72 +68 +62 +54 + 44

−2 − 4 − 6 − 8 − 10

The wrong number in the series is 300.

Q20 Text Solution:

9600, 1920, 480, ?, 80, 80

the series is, ÷5, ÷4, ÷3, ÷2, ÷1

? = 480 ÷ 3

? = 160

Hints & Solutions

Level-2

Q1 Text Solution:

Pattern of the series is as follows :

960 - $(11)^2$ = 839

839 - $(9)^2$ = 758

758 - $(7)^2$ = 709

709 - $(5)^2$ = **684**

684 - $(3)^2$ = 675

? = 684

Q2 Text Solution:

$Here\ the\ pattern\ is,$

$5 = 4 + 1 = 2^2 + 1$

$10 = 9 + 1 = 3^2 + 1$

$17 = 16 + 1 = 4^2 + 1$

$26 = 25 + 1 = 5^2 + 1$

$37 = 36 + 1 = 6^2 + 1$

Now.

50 =7^2 + 1

$Hence,\ Option\ B\ is\ Correct$

Q3 Text Solution:

$10 \times 2 = 20$

$20 + 2 = 22$

$22 \times 2 = 44$

$44 + 2 = 46$

$46 \times 2 = 92$

$92 + 2 = 94$

Q4 Text Solution:

$4^2 + 2 = 18$

$5^3 + 2 = 127$

$6^2 + 2 = 38$

$7^3 + 2 = 345$

$8^2 + 2 = 66$

$9^3 + 2 = 731$

Q5 Text Solution:

$181 \times 2 - 1 = 361$

$361 \times 2 - 2 = 720$

$720 \times 2 - 3 = 1437$

$1437 \times 2 - 4 = 2870$

$2870 \times 2 - 5 = 5735$

Q6 Text Solution:

Pattern of the series is as follows :

7 x 2 + 2 = 16

16 x 3 - 3 = 45

45 x 4 + 4 = 184

184 x 5 - 5 = 915

915 x 6 + 6 = 5496

? = 5496

Q7 Text Solution:

Pattern of the series is as follows :

15 + 6 = 21

21 + 17 = 38

38 + 27 = 65

65 + 36 = 101

101 + 44 = 145

Here, 6 + 11 = 17

17 + 10 = 27

27 + 9 = 36

36 + 8 = 44

And 11 - 1 = 10

10 - 1 = 9

9 - 1 = 8

? = 145

Q8 Text Solution:

Pattern of the series is as follows :

0 = 1^2 - 1

2 = 2^2 - 2

8 = 3^2 - 1

14 = 4^2 - 2

24 = 5^2 - 1

34 = 6^2 - 2

? = 24

Q9 Text Solution:

Pattern of the series is as follows :

12 x 1 + 2 = 14

14 x 2 + 4 = 32

32 x 3 + 6 = 102

102 x 4 + 8 = 416

416 x 5 + 10 = 2090

2090 x 6 + 12 = 12552

? = 12552

Q10 Text Solution:

Pattern of the series is as follows :

14 × 0.5 - 1 = 6 ,

6 × 1 - 1 = 5 ,

5 × 1.5 - 1 = 6.5 ,

6.5 × 2 - 1 = 12 ,

12 × 2.5 - 1 = **29**

? = 29

Q11 Text Solution:

Pattern of the series is as follows :

17 x 1 - 1 = 16

16 x 2 - 2 = 30

30 x 3 - 3 = 87

87 x 4 - 4 = 344

344 x 5 - 5 = 1715

? = 1715

Q12 Text Solution:

Pattern of the series is as follows :

24 + $(2)^2$ = 28

28 - $(3)^2$ = 19

19 + $(4)^2$ = 35

35 - $(5)^2$ = 10

10 + $(6)^2$ = 46

? = 46

Q13 Text Solution:

Pattern of the series is as follows :

$26 \times \frac{1}{2} - 1 = 12$

$12 \times 1 - 1 = 11$

$11 \times \frac{3}{2} - 1 = 15.5$

$15.5 \times 2 - 1 = 30$

$30 \times \frac{5}{2} - 1 = 74$

? = 74

Q14 Text Solution:

Pattern of the series is as follows :

3 x 2 - 1 = **5**

5 x 3 - 1 = 14

14 x 4 - 1 = 55

55 x 5 - 1 = 274

274 x 6 - 1 = 1643

? = 5

Q15 Text Solution:

Pattern of the series is as follows :

39 = 13 x 3

52 = 13 x 4 (= 1 + 3)

78 = 13 x 6 (= 2 + 4)

117 = 13 x 9 (= 3 + 6)

169 = 13 x 13 (= 4 + 9)

234 = 13 x 18 (= 5 + 13)

Q16 Text Solution:

$29 + 1^3 + 1 = 31$

$31 + 2^3 + 2 = 41$

$41 + 3^3 + 3 = 71$

$71 + 4^3 + 4 = 139$

$139 + 5^3 + 5 = 269$

Similarly,

$84 + 3^3 + 3 = 114$

$114 + 4^3 + 4 = 182$ (Ans)

Q17 Text Solution:

$8 \times 1 - 1^2 = 7$

$7 \times 2 - 2^2 = 10$

$10 \times 3 - 3^2 = 21$

$21 \times 4 - 4^2 = 68$

$68 \times 5 - 5^2 = 315$

Similarly:

$12 \times 1 - 1^2 = 11$

$11 \times 2 - 2^2 = 18$

$18 \times 3 - 3^2 = 45$

$45 \times 4 - 4^2 = 164$

$164 \times 5 - 5^2 = 795$

So, the value of m = 795

Hence, option d.

Q18 Text Solution:

Pattern of series –

36 ×0.5+1=19

19 ×1+2=21

21 ×2+3=45

Y = 45 ×4+4= 184

184 ×8+5=1477

So, A + 124 = 2×184 – 48

A = 320 – 124

A = 196

Q19 Text Solution:

9050-15^3 = 5675,

5675-13^3 = 3478(x)

$3478-11^3 = 2147$,

$2147-9^3 = 1418$ (y)

$1418-7^3 = 1075$,

$1075-5^3 = 950$

Required sum = 2x + 6th term

$= 2 \times 3478 + 1075$

$=6956 + 1075 = 8031$

Q20 Text Solution:

Series is $+2^2+3^3+4^2+5^3+6^2$

$\therefore x = 76 + 5^3 = 76 + 125 = 201$

$y = 201 + 6^2 = 201 + 36$

$= 237$

$(x - y)^2 = (201 - 237)^2$

$= (-36)^2$

$= 1296$

Hints & Solutions

Level-3

Q1. Text Solution:

From the common explanation, we have

$\frac{a}{c}$ = $\frac{306}{75}$ = 4.08

Hence, Option D is correct.

Common explanation :

Series I :

Consecutive prime numbers:

Series Pattern	Given Series	
17 × 17 + 17 = 306	306	a
13 × 13 + 13 = 182	182	
11 × 11 + 11 = 132	132	
7 × 7 + 7 = 56	56	
5 × 5 + 5 = 30	30	
3 × 3 + 3 = 12	12	
2 × 2 + 2 = 6	6	b

Series II :

6^{th} term of the series = b = a – 4c

306 – 4c = 6

c = 75

a – 5c = d

306 – 5 × 75 = – 69 = d

Q2. Text Solution:

From the common explanation, we have

b – d = 6 – (– 69) = 75

option A = $\frac{a}{4} = \frac{306}{4} = 76.50$ (Eliminate)

Option B = b = 6 (Eliminate)

Option C = c = 75 (Satisfies)

Hence, Option C is correct.

Common explanation :

Series I :

Consecutive prime numbers:

Series Pattern	Given Series	
17 × 17 + 17 = 306	306	a
13 × 13 + 13 = 182	182	
11 × 11 + 11 = 132	132	
7 × 7 + 7 = 56	56	
5 × 5 + 5 = 30	30	
3 × 3 + 3 = 12	12	
2 × 2 + 2 = 6	6	b

Series II :

6^{th} term of the series = b = a – 4c

306 – 4c = 6

c = 75

a – 5c = d

306 – 5 × 75 = – 69 = d

Q3. Text Solution:

From common explanation, we have

$\frac{d}{a} = \frac{39270}{12} = 3272.50$

Hence, Option B is correct.

Common explanation :

Series 1 :

Series Pattern	Given Series	
12	**12**	**a**
12 × 12 + 10 = 154	154	
154 × 10 + 8 = 1548	1548	
1548 × 8 + 6 = 12390	12390	
12390 × 6 + 4 = 74344	74344	
74344 × 4 + 2 = 297378	297378	

Series 2 :

Series Pattern	Given Series	
2	**2**	**b**
2 × 14 + 12 = 40	**40**	**c**
40 × 12 + 10 = 490	490	
490 × 10 + 8 = 4908	4908	
4908 × 8 + 6 = 39270	**39270**	**d**
39270 × 6 + 4 = 235624	235624	

Q4. Text Solution:

From common explanation, we have

$\frac{a}{3}$, 4b, $\frac{c}{2.50}$, $4b^3$, e

$\frac{12}{3}$, 4 × 2, $\frac{40}{2.50}$, 4× 8, e

4, 8, 16, 32, e

4 × 2 = 8

8 × 2 = 16

16 × 2 = 32

32 ×2 = 64

So the answer = 64

Hence, Option B is correct.

Common explanation :

Series 1 :

Series Pattern	Given Series	
12	**12**	**a**
12 × 12 + 10 = 154	154	
154 × 10 + 8 = 1548	1548	
1548 × 8 + 6 = 12390	12390	
12390 × 6 + 4 = 74344	74344	
74344 × 4 + 2 = 297378	297378	

Series 2 :

Series Pattern	Given Series	
2	**2**	**b**
2 × 14 + 12 = 40	**40**	**c**
40 × 12 + 10 = 490	490	
490 × 10 + 8 = 4908	4908	
4908 × 8 + 6 = 39270	**39270**	**d**
39270 × 6 + 4 = 235624	235624	

Q5 Text Solution:

3rd least prime number is 5

So, value of Q = 5^3 + 1 = 126

And value of P = 126 × $\frac{5}{21}$ = 30

Logic in the series:

14 × 2 + 2 = 30

30 × 2 + 2 = 62

62 × 2 + 2 = 126

126 × 2 + 2 = 254

And next term of the series = 254 × 2 + 2 = 510

Q6 Text Solution:

Logic in the given series:

8 × 2.5 = 20

20 × 5 = 100

100 × 7.5 = 750

750 × 10 = 7500
7500 × 12.5 = 93750
Hence, the wrong term in the given series = 150
Now,
1st term of the new series = 150
2nd term of the new series = 150 + 64 = 214
3rd term of the new series = 214 – 49 = 165
4th term of the new series = 165 + 36 = 201
5th term of the new series = 201 – 25 = 176
So, 5th term of the new series = 176

Q7 Text Solution:
Logic in the series:
18 × 2 + 1 = 37
37 × 2 + 1 = 75
75 × 2 + 1 = 151
151 × 2 + 1 = 303
303 × 2 + 1 = 607
So, X = 303 and Y = 607
From A:
X = 303, Y = 607
X is a multiple of 3 but Y is not a multiple of 3.
So, A is not true.
From B:
$X = \frac{Y-1}{2}$
$303 = \frac{607-1}{2}$
303 = 303
So, B is true.
From C:
Y = 607
Y is a prime number.
So, C is true.
Hence, only B and C are true.

Q8 Text Solution:
Logic in the given series:
325 - 5^3 = **200**
200 - 4^3 = 136
136 - 3^3 = 109
109 - 2^3 = 101
101 - 1^3 = 100
So, the value of P = 200
Now,
1st term of the new series = 200
2nd term of the new series = 200 - 5^3 = 75
3rd term of the new series = 75 - 4^3 = 11
4th term of the new series = 11 - 3^3 = -16

Q9 Text Solution:
Logic in the given series:
8 × 1 + 1 = **9**
9 × 2 + 2 = 20
20 × 3 + 3 = 63
63 × 4 + 4 = 256
256 × 5 + 5 = 1285
So, the missing term in the given series = P = 9
Now,
1st term of the new series = 9 - 3 = 6
2nd term of the new series = 6 × 1 + 1 = 7
3rd term of the new series = 7 × 2 + 2 = 16
4th term of the new series = 16 × 3 + 3 = 51
5th term of the new series = 51 × 4 + 4 = 208
So, the value of 'n' = 5

Q10 Text Solution:
Logic in the given series:
8 × 0.5 = 4
4 × 1 = 4
4 × 2 = 8
8 × 4 = **32**
32 × 8 = 256
So, the missing term of the given series = 32
Now,
1st term of the new series = 32
2nd term of the new series = 32 × 0.25 = 8
3rd term of the new series = 8 × 0.5 = 4
4th term of the new series = 4 × 1 = 4
5th term of the new series = 4 × 2 = 8
6th term of the new series = 8 × 4 = 32