



Name of the Bundle	Intermediate Bundle V1	Subject	Aptitude
Topic	Number Series and Alphanumeric series	Last updated on	10 October 2024

CONCEPT 1 – WHEN A NUMBER IS MISSED

1. DIFFERENCE OF NUMBERS/ DIFFERENCE OF DIFFERENCE IS SAME.

1) What will be the missing number in the following series?

3, 10, 20, 33, 49, 68, ?

- a) 75
- b) 85
- c) 90
- d) 91

ANS: c) 90

Explanation:

$$\begin{array}{cccccccc} 3 & 10 & 20 & 33 & 49 & 68 & 68+22 & = & 90 \\ \underbrace{\quad\quad} & \underbrace{\quad\quad} & \underbrace{\quad\quad} & \underbrace{\quad\quad} & \underbrace{\quad\quad} & \underbrace{\quad\quad} & & & \\ +7 & +10 & +13 & +16 & +19 & +19 & +3 & & \\ \underbrace{\quad\quad} & \underbrace{\quad\quad} & \underbrace{\quad\quad} & \underbrace{\quad\quad} & \underbrace{\quad\quad} & & & & \\ +3 & +3 & +3 & +3 & +3 & & & & \end{array}$$

Here the difference of difference of numbers is 3.



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2) What will be the missing number in the following series?

3, 15, 35, 63, 99, ?

- a) 111
- b) 143
- c) 142
- d) 153

ANS: b) 143

Explanation: Here the difference of difference of numbers is 8.

$$\begin{array}{cccccc} 3 & 15 & 35 & 63 & 99 & 99+44 = 143 \\ \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \\ +12 & +20 & +28 & +36 & +36+8 & \\ \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & & \\ +8 & +8 & +8 & +8 & & \end{array}$$

3) What will be the missing number in the following series?

69, 72, 78, 87, ?, 114

- a) 111
- b) 99
- c) 93
- d) 96

ANS: b) 99

Explanation:

$$\begin{array}{cccccc} 69 & 72 & 78 & 87 & 99 & 114 \\ \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \underbrace{\quad} & \\ +3 & +6 & +9 & +12 & +15 & \end{array}$$

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2.DOUBLE OR TRIPLE SERIES SET IN A SINGLE SERIES.

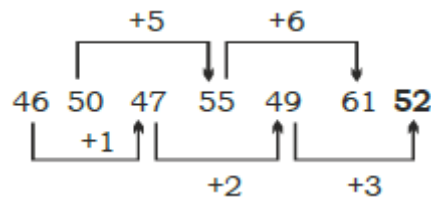
4) What will be the missing number in the following series?

46, 50, 47, 55, 49, 61, ?

- a) 54
- b) 52
- c) 57
- d) 51

ANS: b) 52

Explanation:



5) What will be the missing number in the following series?

1, 0, 3, 2, 5, 4, _

- a) 6
- b) 9
- c) 7
- d) 8

ANS:c) 7

Explanation:

Divide the series into two parts of alternative numbers

Series A: 1, 3, 5, _

Series B: 0, 2, 4, _

So, as we can see that series A comprises odd numbers so the next number in series would be 7.

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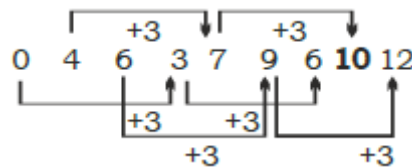
6) What will be the missing number in the following series?

0, 4, 6, 3, 7, 9, 6, ?, 12

- a) 8
- b) 12
- c) 11
- d) 10

ANS: d) 10

Explanation:



Triple Series

(i) 0, 3, 6

(ii) 4, 7, **10**

(iii) 6, 9, 12



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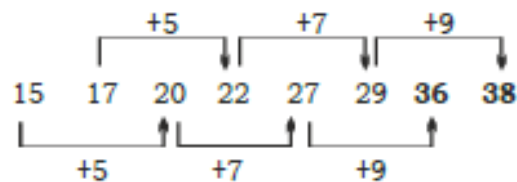
7) What will be the missing number in the following series?

15, 17, 20, 22, 27, 29, ?, ?

- a) 31,38
- b) 36,38
- c) 36,43
- d) 38,45

ANS: b) 36,38

Explanation:



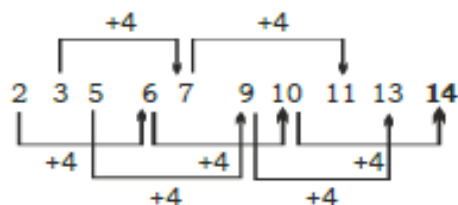
8) What will be the missing number in the following series?

2, 3, 5, 6, 7, 9, 10, 11, 13, ?

- a) 14
- b) 12
- c) 15
- d) 16

ANS: a) 14

Explanation:





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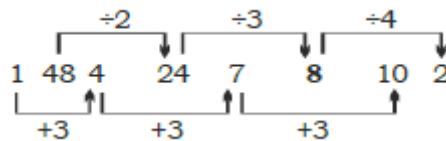
9) What will be the missing number in the following series?

1, 48, 4, 24, 7, ?, 10, 2

- a) 8
- b) 2
- c) 18
- d) 12

ANS: a) 8

Explanation:



3. PRIME NUMBER SERIES.

10) What will be the missing number in the following series?

23, 29, 31, __, 41, 43, 47

- a) 32
- b) 33
- c) 37
- d) 39

ANS: c) 37

Explanation:

It is a prime number series.

Next Prime no. after 31 is **37**.



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11) What will be the missing number in the following series?

5, 11, 17, __, 31, 41

- a) 19
- b) 23
- c) 29
- d) 31

ANS: b) 23

Explanation:

Ascending order of prime numbers with a gap of one prime number.

5 11 17 23 31 41
⑦ ⑬ ⑰ ⑲ ⑳ ㉓ ㉖

4.SQUARE AND CUBE SERIES

12) What will be the missing number in the following series?

1,1,4,8,9,27,__

- a) 9
- b) 12
- c) 16
- d) 27

ANS: c) 16

Explanation:

- $(1)^2, (1)^3, (2)^2, (2)^3, (3)^2, (3)^3, (4)^2$
- 1, 1, 4, 8, 9, 27, 16



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13) What will be the missing number in the following series?

56, 72, 90, 110, 132, __

- a) 148
- b) 152
- c) 156
- d) 158

ANS: c) 156

Explanation:

- $7^2+7, 8^2+8, 9^2+9, 10^2+10, 11^2+11, 12^2+12$
- 56, 72, 90, 110, 132, **156**

OR,

- $8^2-8, 9^2-9, 10^2-10, 11^2-11, 12^2-12, 13^2-13$.
- 56, 72, 90, 110, 132, **156**

14) What will be the missing number in the following series?

1, 9, 25, ?, 81

- a) 36
- b) 64
- c) 49
- d) 28

ANS: c) 49

Explanation:

1 9 25 **49** 81
↓ ↓ ↓ ↓ ↓
 $1^2 3^2 5^2 7^2 9^2$

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5.MATHEMATICAL OPERATIONS ADD, SUBTRACT, MULTIPLY, DIVIDE.

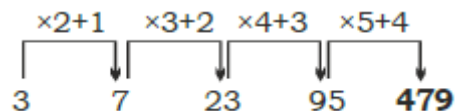
15) What will be the missing number in the following series?

3, 7, 23, 95, __

- a) 479
- b) 575
- c) 128
- d) 162

ANS: a) 479

Explanation:



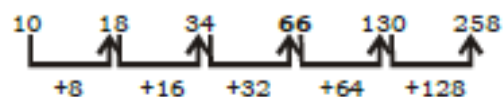
16) What will be the missing number in the following series?

10, 18, 34, ?, 130, 258

- a) 32
- b) 60
- c) 68
- d) 66

ANS: d) 66

Explanation:





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17) What will be the missing number in the following series?

2, 10, 60, 420, 3360, ?

- a) 30440
- b) 30240
- c) 30220
- d) 30420

ANS: b) 30240

Explanation:



18) What will be the missing number in the following series?

1, 2, 4, 7, __, 33

- a) 11
- b) 18
- c) 28
- d) 22

ANS: c) 22

Explanation:





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WRONG NUMBERS

Find out the wrong number in the following number series.

1. 256, 240, 218, 179, 130, 66

- a. 218
- b. 66
- c. 179
- d. 240
- e. 130

Ans: a. 218

Explanation:

$$256 - 4^2 = 240$$

$$240 - 5^2 = 215$$

$$215 - 6^2 = 179$$

$$179 - 7^2 = 130$$

$$130 - 8^2 = 66$$



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2. 32, 39, 56, 63, 80, 99

- a. 39
- b. 56
- c. 99
- d. 80
- e. 63

Ans: b. 56

Explanation:

$$32 + 7 = 39$$

$$39 + 11 = 50$$

$$50 + 13 = 63$$

$$63 + 17 = 80$$

$$80 + 19 = 99$$



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3. 24, 47, 78, 117, 164, 220

- a. 164
- b. 78
- c. 220
- d. 117
- e. 47

Ans: c. 220

Explanation:

$$5^2 - 1 = 24$$

$$7^2 - 2 = 47$$

$$9^2 - 3 = 78$$

$$11^2 - 4 = 117$$

$$13^2 - 5 = 164$$

$$15^2 - 6 = 219$$



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4. 5, 11, 23, 43, 78, 115

- a. 115
- b. 43
- c. 78
- d. 23
- e. 11

Ans: c. 78

Explanation:

$$5 + (2^2 + 2) = 11$$

$$11 + (3^2 + 3) = 23$$

$$23 + (4^2 + 4) = 43$$

$$43 + (5^2 + 5) = 73$$

$$73 + (6^2 + 6) = 115$$



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5. 5, 86, 150, 199, 235, 268

- a. 5
- b. 268
- c. 86
- d. 150
- e. 199

Ans: b. 268

Explanation:

$$5 + 9^2 = 86$$

$$86 + 8^2 = 150$$

$$150 + 7^2 = 199$$

$$199 + 6^2 = 235$$

$$235 + 5^2 = 260$$



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6. 2, 7, 16, 29, 45, 67

- a. 67
- b. 45
- c. 16
- d. 29
- e. 7

Ans: b. 45

Explanation:

$$2 + 5 = 7$$

$$7 + 9 = 16$$

$$16 + 13 = 29$$

$$29 + 17 = 46$$

$$46 + 21 = 67$$

7. 24, 36, 90, 138, 337.5, 506.25

- a. 138
- b. 337.5
- c. 506.25
- d. 90
- e. 36

Ans: a. 138

Explanation:

$$24 * 1.5 = 36$$

$$36 * 2.5 = 90$$

$$90 * 1.5 = 135$$

$$135 * 2.5 = 337.5$$

$$337.5 * 1.5 = 506.25$$

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8. 7, 16, 27, 48, 55, 72

- a. 55
- b. 72
- c. 27
- d. 48
- e. 16

Ans: d. 48

Explanation:

$$7 + 9 = 16$$

$$16 + 11 = 27$$

$$27 + 13 = 40$$

$$40 + 15 = 55$$

$$55 + 17 = 72$$

9. 28, 38, 49, 62, 70, 78

- a. 49
- b. 78
- c. 38
- d. 70
- e. 62

Ans: b. 78

Explanation:

$$28 + (2 + 8) = 38$$

$$38 + (3 + 8) = 49$$

$$49 + (4 + 9) = 62$$

$$62 + (6 + 2) = 70$$

$$70 + (7 + 0) = 77$$

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10. 19, 99, 219, 353, 535, 759

- a. 99
- b. 535
- c. 759
- d. 353
- e. 219

Ans: e. 219

Explanation:

$$19 + (20 * 4) = 99$$

$$99 + (22 * 5) = 209$$

$$209 + (24 * 6) = 353$$

$$353 + (26 * 7) = 535$$

$$535 + (28 * 8) = 759$$

11. 477, 476, 237, 78, 16.5, 2.7

- a. 78
- b. 2.7
- c. 16.5
- d. 476
- e. 237

Ans: c. 16.5

Explanation:

$$(477 - 1)/1 = 476$$

$$(476 - 2)/2 = 237$$

$$(237 - 3)/3 = 78$$

$$(78 - 4)/4 = 18.5$$

$$(18.5 - 5)/5 = 2.7$$

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12. 452, 480, 545, 672, 888, 1232

- a. 480
- b. 672
- c. 1232
- d. 888
- e. 545

Ans: b. 672

Explanation:

452,	480,	545,	671,	888,	1232
28	65	126	217	344	
$3^3 + 1$	$4^3 + 1$	$5^3 + 1$	$6^3 + 1$	$7^3 + 1$	

13. 86, 85, 93, 88, 148, 123

- a. 88
- b. 148
- c. 86
- d. 123
- e. 93

Ans: a. 88

Explanation:

$$86 - 1^2 = 85$$

$$85 + 2^3 = 93$$

$$93 - 3^2 = 84$$

$$84 + 4^3 = 148$$

$$148 - 5^2 = 123$$

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14. 42, 20, 17, 37, 147, 1175

- a. 17
- b. 147
- c. 42
- d. 20
- e. 1175

Ans: a. 17

Explanation:

$$42 * 0.5 - 1 = 20$$

$$20 * 1 - 1 = 19$$

$$19 * 2 - 1 = 37$$

$$37 * 4 - 1 = 147$$

$$147 * 8 - 1 = 1175$$

15. 112, 150, 356, 685, 1094, 1552, 2035

- a. 1552
- b. 2035
- c. 685
- d. 356
- e. 1094

Ans: d. 356

Explanation:

112	150	357	685	1094	1552	2035
38	207	328	409	458	483	
	169	121	81	49	25	

The difference of difference is, 132 , 112 , 92 , 72 , 52 ,....

The wrong term is, 356

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16. 21, 22, 46, 143, 568, 2845

- a. 22
- b. 143
- c. 46
- d. 568
- e. 2845

Ans: b. 143

Explanation:

$$21 * 1 + 1 = 22$$

$$22 * 2 + 2 = 46$$

$$46 * 3 + 3 = 141$$

$$141 * 4 + 4 = 568$$

$$568 * 5 + 5 = 2845$$

17. 53760, 6720, 960, 160, 80, 8

- a. 8
- b. 80
- c. 960
- d. 6720
- e. 160

Ans: b. 80

Explanation:

$$53760 \div 8 = 6720$$

$$6720 \div 7 = 960$$

$$960 \div 6 = 160$$

$$160 \div 5 = 32$$

$$32 \div 4 = 8$$

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Name of the Bundle	Intermediate Bundle V1	Subject	Aptitude
Topic	Number Series and Alphanumeric series	Last updated on	10 October 2024

18. 852, 924, 1014, 1124, 1254, 1412, 1594

- a. 1014
- b. 1254
- c. 1412
- d. 1594
- e. 924

Ans: b. 1254

Explanation:

$$852 + 8^2 + 8 = 924$$

$$924 + 9^2 + 9 = 1014$$

$$1014 + 10^2 + 10 = 1124$$

$$1124 + 11^2 + 11 = 1256$$

$$1256 + 12^2 + 12 = 1412$$

$$1412 + 13^2 + 13 = 1594$$



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19. 121, 142, 177, 226, 302, 394

- a. 394
- b. 302
- c. 142
- d. 177
- e. 226

Ans: b. 302

Explanation:

$$121 + (3 * 7) = 142$$

$$142 + (5 * 7) = 177$$

$$177 + (7 * 7) = 226$$

$$226 + (11 * 7) = 303$$

$$303 + (13 * 7) = 394$$

20. 75, 125, 170, 210, 245, 295

- a. 245
- b. 170
- c. 210
- d. 125
- e. 295

Ans: e. 295

Explanation:

$$75 + 50 = 125$$

$$125 + 45 = 170$$

$$170 + 40 = 210$$

$$210 + 35 = 245$$

$$245 + 30 = 275$$

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ALPHA-NUMERIC SERIES

Type -1 Arranging in dictionary Order

1) After arranging the given words according to dictionary order, which word will come at 'Fifth' position?

1. Popular
2. Population
3. Populace
4. Pope
5. Poppy

a) Popular b) populace c) Poppy d) Population

Ans:d) Population

Explanation:

Arranging the words that would appear in the dictionary ,

1. Pope
2. Poppy
3. Populace
4. Popular
5. Population

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2)After arranging the given words according to dictionary order, which word will come at 'Fourth' position?

1. Unseen
2. Unseam
3. Unsafe
4. Unsound
5. Unsay

a)Unsay b)Unsound c)Unseam d) Unseen

Ans: d) Unseen

Explanation:

Arranging the words that would appear in the dictionary ,

- 1.Unsafe
2. Unsay
- 3.Unseam
- 4.Unseen
5. Unsound



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3) Select the option that represents the correct order of the given words as they would appear in an English dictionary.

1. Fustian
2. Funerary
3. Fusion
4. Funicular
5. Fuscous
6. Fundament
7. Fuselage

a) 1, 6, 2, 5, 4, 7, 3, 1

b) 6, 2, 5, 7, 3, 4, 1

c) 6, 2, 5, 7, 4, 1, 3

d) 6, 2, 4, 5, 7, 3, 1

Ans: d) 6, 2, 4, 5, 7, 3, 1

Explanation:

Arranging the words that would appear in the dictionary ,

6. Fundament
2. Funerary
5. Fuscous
7. Fuselage
3. Fusion
1. Fustian



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4) After arranging the given words according to dictionary order, which word will come at 'Third' position?

1. Sickle
2. Sickly
3. Sick
4. Sicken
5. Sickness

a) Sicken b) Sickle c) Sickly d) Sick

Ans: b) Sickle

Explanation:

1. Sick
2. Sicken
3. Sickle
4. Sickly
5. Sickness



Name of the Bundle	Intermediate Bundle V1	Subject	Aptitude
Topic	Number Series and Alphanumeric series	Last updated on	10 October 2024

Type -2 Missing alphabet

Type 2A: These series are made by some group of Alphabet.

5) Which one set of letters when sequentially placed at the gaps in the given letter series shall complete it?

m_omnm_m_nomnm_m

- a) onmo b) nomo c) monm d) nnmo

Ans: b) nomo

Explanation: These series are made by some group of Alphabet. First of all we will count the total no. of Alphabet with gaps in any series. Here the number of gaps with alphabets is 16.

16 can be splitted in to 4*4 rows

mnom

m nom

mnom

mnom

Note: we should fill the 'group' with the help of previous and next 'group'.

6) Which one set of letters when sequentially placed at the gaps in the given letter series shall complete it?

b_y__by_b_yt

- a) bgbtb b) btbtb c) atbbt d) cbpte

Ans: b) btbtb

Explanation: Here total no. of Alphabet with gap are 12. So, we can break in groups of 3 or 4 Alphabet each.

12 can be splitted in to 4*3 rows

b by t

b by t

b by t



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7) Which one set of letters when sequentially placed at the gaps in the given letter series shall complete it?

ab_d_aaba_na_badna_badna.

- a) babda b) andaa c) badna d) dbanb

Ans: b) andaa

Explanation: Here total no. of Alphabet with gap are 24. So, we can break in groups of 3, 4 or 6 Alphabet each.

24 can be splitted in to 6*4 rows

a b a d n a
a b a d n a
a b a d n a
a b a d n a

Type 2B: The place of a letter in a group can be changed in next group.

8) Which one set of letters when sequentially placed at the gaps in the given letter series shall complete it?

_bcdbc_dcabd_bcdbc_dc_bd

- a)aaaaa b)bbbbbb c)dddddd d)cccccc

Ans: a) aaaaaa

Explanation: Total no. of Alphabet are 24. We can split into groups of 3, 4, 6.

Here the group is of 4 letters.

Let (a=1; b=2; c=3; d=4)

abcd 1234
bcad 2314
cabd 3124
abcd 1234
bcad 2314
cabd 3124

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9) Which one set of letters when sequentially placed at the gaps in the given letter series shall complete it?

acc_bc_a_ccbbcc_

- a) abab b) bcaa c) aabc d) bcaa

Ans: d) bcaa

Explanation:

Total letters = 16

group 4 letters each

acc**b**

bcc**a**

acc**b**

bcc**a**

10) Which one set of letters when sequentially placed at the gaps in the given letter series shall complete it?

abb_baa_a_ba_aab

- a) abba b) abab c) ccac d) aabb

Ans: a) abba

Explanation:

Total letter 17

group 16+1 (4 letter each)

abb**a**

baab

ab**ba**

baab

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Type 2C : Letter can be ascending or descending in order.

11) Which one set of letters when sequentially placed at the gaps in the given letter series shall complete it?

a_cdaab_cc_daab_cc_daa_bbb_ccddd

- a) bdbda b) bddca c) dbbca d) bbdac

Ans: d) bbdac

Explanation:

Letters are Ascending in order

abcd

aab**b**ccdd

aa**b**ccdd

aa**bb**ccddd

Type 3: By Mirror Image

12) Which one set of letters when sequentially placed at the gaps in the given letter series shall complete it?

_aba_cabc_dcba_bab_a

- a) abdca b) bcadc c) abcdd d) cbdaa

Ans: a) abdca

Explanation:

Total letters 20

By mirror Image

aabab**b**cabcd/dcba**c**babaa

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Name of the Bundle	Intermediate Bundle V1	Subject	Aptitude
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Important Facts of Alphabet Test:

1. Position number of letters in English
2. Position number of letters in English alphabets in reverse
3. We know A, E, I, O and U are vowels of the English alphabet and remaining letters are consonants of English
4. A \rightarrow 4 M (A to M) letters are called the first half of English
5. N \rightarrow 4 Z (N to Z) letters are called the second half of English
6. To the left means Z \rightarrow A (Z to A)
7. To the right means A \rightarrow Z (A to Z)
8. From A \rightarrow Z (A to Z) letters are called left to right of English
9. From Z \rightarrow A (Z to A) letters are called right to left of English alphabets.

13) Which of the following will come next in the following series ?

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

- a. 7
- b. 8
- c. 3
- d. 4

Ans: d. 4

Explanation:

The pattern followed is that the series

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



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14) If all the even digits are deleted from the above arrangement, which of the following will be tenth from the right end of the arrangement?

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

- a. 5
- b. 3
- c. 1
- d. 7

Ans: a. 5

Explanation:

If all the even digits are deleted, then

1 5 1 **5** 3 5 7 9 5 1 1 5 7
(Left) (Right)

15) How many such 4s are there in the above arrangement each of which is immediately preceded by a digit which has a numerical value more than four?

- a. ONE
- b. TWO
- c. THREE
- d. FOUR

Ans: b. TWO

Explanation:

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



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16) Which of the following is ninth to the left of twenty first from the left end of the above arrangement?

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

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

Ans: c. 6

Explanation:

Hint:

Left ,Left = Subtraction

Right Right= Subtraction

21-9=12, We have to look at the 12th element from the left. That is 6.

17) What should come next in the following letter series ?

PQRSTABCDEPQRSABCDEPQRSABCDPQ

- a. R
- b. P
- c. S
- d. Q

Ans: a. R

Explanation: The above series is the combination of two series.PQRST & ABCDE.

Then the last alphabet of the first series (T) is removed => PQRS & ABCDE.

Then ,the last alphabet of the second series (E) is removed => PQRS & ABCD.

After that, S should be removed => PQR & ABCD.

Clearly, the next letter is R.

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17) If in the English alphabet, all letters at odd numbered positions are written in serial order from left to right followed by the letters at even numbered positions written in reverse order, which letter will be sixth to the left of seventeenth letter from left ?

PQRSTABCDEPQRSABCDEPQRSABCDPQ

- a. D
- b. B
- c. N
- d. U

Ans: d. U

Explanation:

If all letters at odd positions are written in serial order from left to right, then this series will be, A C E G I K M O Q S U W Y.

Then even positioned letters are written in reverse, the series becomes,

A C E G I K M O Q S U W Y , Z X V T R P N L J H F D B.

Now, 17th letter from left end = T

6th letter to the left of T = U.

By Hint LEFT -LEFT ==> 17-6 =11th From left. The letter is U.



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18) If the digits in the number 79246358 are arranged in descending order from left to right, what will be the difference between the digits which are third from the right and second from the left in the new arrangement?

- a. 1
- b. 2
- c. 3
- d. 4

Ans:d. 4

Explanation:

If the digits are arranged in descending order from left to right, the new number = **98765432**.

Difference between the digits which are third from the right and second from the left = $8-4=4$

19)The positions of how many alphabets will remain the same if each of the alphabets in the word DETRIMENT is arranged in alphabetical order from left to right?

- a. one
- b. two
- c. three
- d. four

Ans: c. three

Explanation:

DETRIMENT
DEEIMNRTT



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20) When all the digits in each of the given numbers are arranged in ascending order, which number becomes the highest?

435 224 786 823 902

- a. 435
- b. 224
- c. 786
- d. 823

Ans: c. 786

Explanation:

Arranging the digits in ascending order

435 – 345

224 – 224

786 – **678**

823 – 238

902 – 092