Series

Learning Objectives

- Number Series
- Letter Series
- Mixed Series

What is a Number Series?

A number series is a sequence of many elements made of numbers only. Such sequence is formed by putting the numbers one after another from left to right.

- **Example**

(i) 1 2 3 4 5 $\left[\xrightarrow[\text{Left to Right}]{1\ 2\ 3\ 4\ 5}\right]$

(ii) 6 5 4 3 2 $\left[\xrightarrow[\text{Left to Right}]{6\ 5\ 4\ 3\ 2}\right]$

(iii) 1 3 5 7 $\left[\xrightarrow[\text{Left to Right}]{1\ 3\ 5\ 7}\right]$

(iv) (1 + 1) (1 + 2) (1 + 3) $\left[\xrightarrow[\text{Left to Right}]{(1+1)(1+2)(1+3)}\right]$

(v) $(1\times1)(1\times2)(1\times3)$ $\left[\xrightarrow[\text{Left to Right}]{(1\times1)(1\times2)(1\times3)}\right]$

(vi) $(1\div1)(1\div2)(1\div3)$ $\left[\xrightarrow[\text{Left to Right}]{(1\div1)(1\div2)(1\div3)}\right]$

(vii) (4 - 1) (4 - 2) (4 - 3) $\left[\xrightarrow[\text{Left to Right}]{(4-1)(4-2)(4-3)}\right]$

Note:

An element is a single member (identity) of a series. For example, in a number series 1, 2 15 8 12', each 1, 2, 15, 8 and 12 is an element.

Properties of Number Series

(1) A number series can be in forward or reverse order.
(2) A number series can be in random order.
(3) A number series must have more than one element.
(4) Numbers can be repeated in a number series.
(5) A single number series can have more than one series.
(6) A number series may have some arithmetical signs also.

- **Example**

Look at the following:
(i) 1 2 3 4 5 6 7 (Forward order series)
(ii) 7 6 5 4 3 2 1 (Reverse order series)

Commonly Asked Question

1. Find the next number.
4 5 6.....
(a) 7 (b) 8
(c) 3 (d) 2
(e) None of these
Answer: (a)

Explanation: Option (a) is correct because the series goes as following:
4 + 1 = 5
5 + 1 = 6
6 + 1 = 7
Rest of the options is incorrect because of the correctness of option (a).
Note: This problem is based on forward order series.

2. After how many numbers does 2 come in the series given below? (Count from left)

1 5 8 2 0 3

(a) 5 (b) 2

(c) 1 (d) 3

(e) None of these

Answer: (d)

Explanation: Option (d) is correct,

Let us see:

1 5 8 2 0 3

↓ ↓ ↓ ↓

1 2 3 4

As 2 is the 4th number from left, it comes after the 3 numbers 1, 5 and 8.

Rest of the options is incorrect because of the correctness of option (d).

3. Which of the following is not a number series?

(a) 4 5 (b) 9

(c) 1 2 3 (d) 3 4 5 6

(e) None of these

Answer: (b)

Explanation: Option (b) is correct because it has a single element 9, but a series is made of more than one element.

Option (a) is incorrect because it has 2 elements.

Option (c) is incorrect because it has 3 elements.

Option (d) is incorrect because it has 4 elements.

Option (e) is incorrect because of the correctness of option (b).

4. Find the missing number in the following series.

8 2 9 1 10 0.....

(a) 12 (b) 11

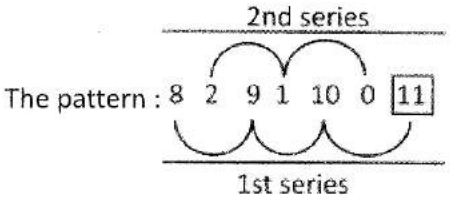
(c) 3 (d) 5

(e) None of these

Answer: (b)

Explanation: Option (b) is correct.

Let us see:



Rest of the options is incorrect because of the correctness of option (b).

5. What comes next in the following series?

9 4 8 6 7 8.....

(a) 6 (b) 9

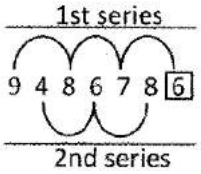
(c) 5 (d) 4

(e) None of these

Answer: (a)

Explanation: Option (a) is correct.

Let us see:



Rest of the options is incorrect because of the correctness of option (a).

6. Find the next number in the following series.
0, 2, 4, 6.....
(a) 8 (b) 3
(c) 5 (d) 7
(e) None of these
Answer: (a)
Explanation: Option (a) is correct because the series goes as following;
0 + 2 = 2
2 + 2 = 4
4 + 2 = 6
6 + 2 = 8
Rest of the options is incorrect because of the correctness of option (a).

7. What will come in place of the blank space?
4-_6 7 8
(a) 1 (b) 5
(c) 3 (d) 2
(e) None of these
Answer: (b)

Explanation: Option (b) is correct because the series goes as following:
4 + 1 = 5
5 + 1 = 6
6 + 1 = 7
7 + 1 = 8
Rest of the options is incorrect because of the correctness of option (b)

8. Find the missing number in the series given below.
9 6 3 __
(a) 8 (b) 2
(c) 7 (d) 0
(e) None of these
Answer: (d)

Explanation: Option (d) is correct because the series goes as following:
9 - 3 = 6
6 - 3 = 3
3 - 3 = 0
Rest of the options is incorrect because of the correctness of option (d).

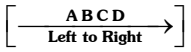
9. What comes next in the given series?
8 7 6 -
(a) 4 (b) 3
(c) 5 (d) 1
(e) None of these
Answer: (c)
Explanation: Option (c) is correct because the series goes as following:
8 - 1 = 7
7 - 1 = 6
6 - 1 = 5

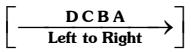
Rest of the options is incorrect because of the correctness of option (c).

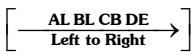
What is a Letter Series?

A letter series is a sequence of many elements made of letters of English alphabet only.
Such sequence is formed by putting the letters one after another from left to right.

- **Example**

(i) A B C D 

(ii) D C B A 

(iii) AL BL CB DE 

Note:
An element of a series is a single member (identity) of that particular series. For example, in a letter series 'A B C D', each A, B, C and D is a single element. Point to be noted that an element can be made of more than one letter. In a series of 'AB LE BE', each AB, LE and BE is a single element.

Properties of Letter series

(1) A letter series can be in forward order.

- **Example**

Look at the following:
(i) A B C D
(ii) B C D E
(2) A letter series can be in reverse order.

- **Example**

Look at the following:
(i) C B A
(ii) D C B A
(3) A letter series can be in random or jumbled order.

- **Example**

Look at the following:
(i) X P Q R A
(ii) B N G I H M
(4) A letter series must have more than one element.

- **Example**

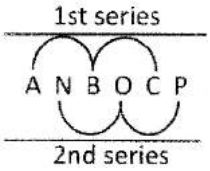
Look at the following:
(i) A B
(ii) B C A
(iii) A B C D E
(iv) E F G H
(5) Letters can be repeated in a letter series.

- **Example**

Look at the following:
(i) A B C C D A
(ii) B B B A C M N M
(6) A single letter series can have more than one series.

- **Example**

Look at the following:
(i) A N B 0 C P
Let us see:

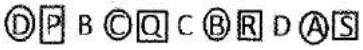


Clearly,

1st series:	A B C
2nd series:	N 0 P

(ii) D P B C Q C B R D A S

Let us see:



1st series:	D C B A
2nd series:	P Q R S
3rd series:	B C D

Commonly Asked Question

1. Find the missing letter.

D P C Q..... R A

(a) B (b) A

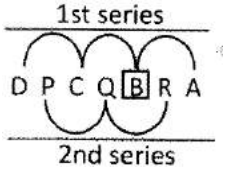
(d) E (d) E

(e) None of these

Answer: (a)

Explanation: Option (a) is correct. The given series is made of two series.

Let us see:



Rest of the option is Incorrect because of the correctness of option (a).

2. What comes in place of the blank space?

C N D M E L.....

(a) G (b) H

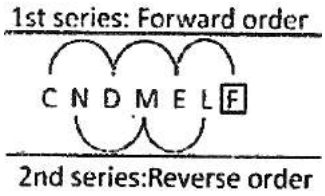
(c) 0 (d) F

(e) None of these

Answer: (d)

Explanation: Option (d) is correct. The given series contains two series.

Let us see:



Rest of the options is incorrect because of the correctness of option (d).

3. Choose the option that will come next in the series given below.

P J Q I R H.....

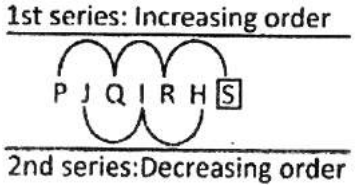
(a) T (b) S

(c) U (d) V

(e) None of these

Answer: (b)

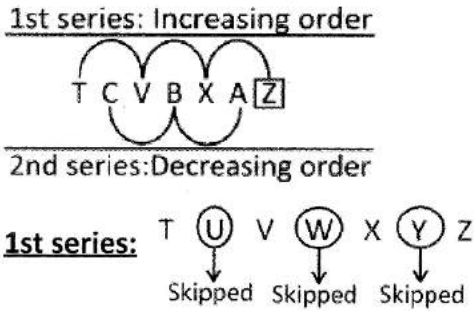
Explanation: Option (b) is correct because the series is a combination of two series.
Let us see:



Rest of the options is incorrect because of the correctness of option (b).

4. What comes in place of the question mark (?)?
T C V B X A?
(a) Y (b) N
(c) Z (d) W
(e) None of these
Answer: (c)

Explanation: Option (c) is correct.
Let us see:



2nd series: C B A (A reverse order series)
Rest of the options is incorrect because of the correctness of option (c).

5. Find the missing letter in the series given below.
CT M__ OT ET
(a) A (b) C
(c) T (d) M
(e) None of these
Answer: (c)

Explanation: Option (c) is correct because the last letter in every element of the series is T.
Rest of the options is incorrect because of the correctness of option (c).

6. What can be fit in the blank space?
ADB LDM..... XDH
(a) ABD (b) NDC
(c) PQR (d) EGZ
(e) None of these
Answer: (b)
Explanation: Option (b) correct because each element of the given series had D as its middle letter.
Rest of the options is incorrect because of the correctness of option (b).

What is a Mixed Series?

A mixed series is a sequence of many elements made of numbers and letters arranged from left to right. In some cases some symbols may take place in such series. The symbols may be '+', '-', 'x', '÷'?. '>', '<', = etc. In other words we can say that a mixed series is sequence of diverse elements.

- **Example**

(i) A 1 B 2 C $\left[\xrightarrow[\text{Left to Right}]{\text{A 1 B 2 C}}\right]$

(ii) 12 D 11 E 10 F $\left[\xrightarrow[\text{Left to Right}]{\text{12 D 11 E 10 F}}\right]$

(iii) X 4 4 D 5 A + $\left[\xrightarrow[\text{Left to Right}]{\text{X 4 4 D 5 A +}}\right]$

Note: Remember from previous chapters (Number Series and Letter Series): An element is a single member of a series.

Properties of Mixed Series

(1) A mixed series can be in forward order.

- **Example**

Look at the following:

(i) A 1 B 2 C 3

(ii) L 15 M 16 N 17

(2) A mixed series can be in reverse or backward order.

- **Example**

Look at the following:

(i) 5 R 4 Q 3 P 2

(ii) 3 D 2 C 1 B

(3) A mixed series can be in random or jumbled order.

- **Example**

Look at the following:

(i) X 2 4 P A

(ii) 2 T Q ? +

(4) A mixed series must have more than one element.

- **Example**

Look at the following:

(i) 12 AB

(ii) T 2 Q ? -

(iii) S ? X + 2

(iv) X+ AL 12

(5) Elements can be repeated in a mixed series.

- **Example**

Look at the following:

(i) A A 5 2 2 5 C Q ? ?

(ii) T P 9 8 8 9 ÷ L ÷

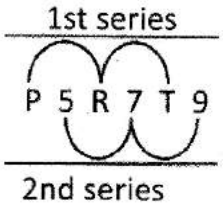
(6) A single mixed series can have more than one series.

- **Example**

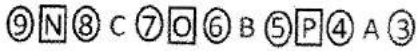
Look at the following:

(i) P 5 R 7 T 9.

Let us see:



Clearly,
1st series (Letter series): P R T
2nd series (Number series): 5 7 9

(ii) 9 N 8 C 7 0 6 B 5 P 4 A 3
Let us see:

1st series (Number series): 9 8 7 6 5 4 3
2nd series (Letter series): N 0 P
3rd series (Letter series): C B A

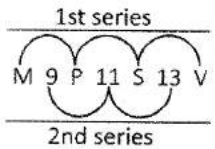
Commonly Asked Question

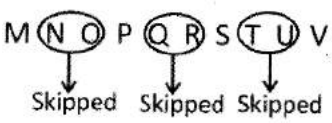
1. Find the next element in the series given below.
P 2 Q 3 R 4.....
(a) S (b) C
(c) D (d) M
(e) None of these
Answer: (a)

Explanation: Option (a) is correct because in the given series, letters and numbers take place alternately. Every next letter is one letter ahead from the previous letter and every next number/digit gets increased by 1.
Rest of the options is incorrect because of the correctness of option (a)

2. What comes next in the following series?
9 W 8 V 7 U.....
(a) X (b) 5
(c) S (d) 6
(e) None of these
Answer: (d)

Explanation: Option (d) is correct because in the given series, numbers/digits and letters take place alternately. Every next number decreases by 1 and every next letter is one letter backward from the previous letter.
Rest of the options is incorrect because of the correctness of option (d).

3. What comes in place of the blank space?
M 9 P 11 S 13.....
(a) B (b) V
(c) L (d) T
(e) None of these
Answer: (b)
Explanation: Option (b) is correct because of the following reason.


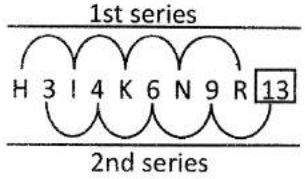
1st series (Letter series): M P S V
Every next letter of this series takes place skipping two letters in forward alphabetical order.
Let us see:


2nd series (Number series): 9 11 13
Clearly, every next element of this series increases by 2.

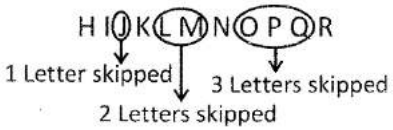
Let us see:
9 + 2 = 11
11 + 2 =13.
Rest of the options is incorrect because of the correctness of option (b).

4. What comes next in the following series?
H 3 I 4 K 6 1 M 9 R.....
(a) 13 (b) 12
(c) 10 (d) 11
(e) None of these
Answer: (a)

Explanation: Option (a) is correct.
Let us see:



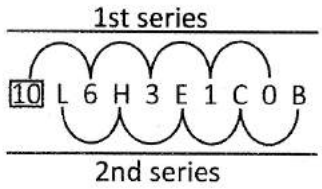
1st series (Letter series):



Clearly, every next letter in the given series takes place skipping 0, 1, 2 and 3 letters respectively.
2nd series (Number series): 3 4 6 9 13
Series Pattern: 3 + 1 = 4
4 + 2 = 6
6 + 3 = 9
9 + 4 = 13
Rest of the options is incorrect because of the correctness of option (a).

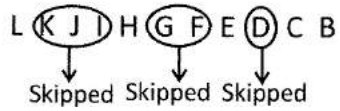
5. Find the missing element.
__ L 6 H 3 E 1 C O B
(a) 10 (b) M
(c) 13 (d) 8
(e) None of these
Answer: (a)

Explanation: Option (a) is correct.
Let us see:



1st series (Number series): 10 6 3 1 0
Series Pattern: 10 - 4 = 6
6 - 3 = 3
3 - 2 = 1
1 - 1 = 0
Clearly, every next number decreases by 4, 3, 2 and 1 respectively.

2nd series (Letter series): L H E C B



Series Pattern:

Clearly, every next letter takes place skipping 3, 2, 1 and 0 (Zero) letters respectively in reverse order.
Rest of the options is incorrect because of the correctness of option (a).