Missing Numbers

What are Missing Numbers?

Missing numbers are the numbers that are missed out of a particular sequence or series. These numbers are part of a series with similar changes between those numbers. We can also call missing numbers a part of the sequence of numbers that follow a specified rule, law, or formula.

Missing Number Sequence

In a missing number sequence, you might be asked to locate the missing number anywhere in the series, it can be at the beginning of the series or the end of the series. In such a sequence, the structure lies quite close to the incorrect series. The only thing to be considered is to crack the rule and find the approximate next number in the sequence.

How to Find Missing Numbers in a Series?

Every missing number series is unique in itself and no specific rule can be followed to find it, we can still generalize some of the common steps to locate the missing number in the series.

- **Step 1:** Select first 2 or 3 terms to crack the rule of the sequence. This will help in finding the missing number. For instance: if a sequence has 5 terms, we can start with the first three terms and check the rule applied.
- **Step 2:** Another basic rule to find the missing number is to start with the number that is easy to operate. This includes the terms that are factors of 2, 3, 5 or 10. Also, we can check for squares, cubes and cube roots of numbers to get to a conclusion about the rule.

Example 1: 1, 8, 9, 64, 25, 216,?

Answer: As we can see that the numbers in the given series are in increasing order. So, the rule might include addition or multiplication.

Also, we can check that the numbers displayed are squares and cubes of some number. So, the rule becomes:

12=1, 23=8, 32=9, 43=64,…12=1, 23=8, 32=9, 43=64,…

So, the last number in the series becomes 72=4972=49

So, the required missing term is 49.

Example 2: 32, 40, 24, 16, 24,?

Ans: As we can see that the third term in the series is less than the first term, the rule followed will include subtraction or division. Similarly, as the second term is greater than the first term, the rule followed will include addition or multiplication.

Taking the reference from the first three terms, we can see that:

$32 + 8 = 40$, and $32 - 8 = 24$

Similarly, the next three terms, $16 + 8 = 24$, and $16 - 8 = 8$

So, the required missing term is 8.

EXERCISE

1. Find the missing number.

4	5	3	2	0
7	3	4	4	21
6	4	4	5	22
9	6	5	5	?

A. 34

B. 42

C. 44

D. 45

2. Find the missing number.

56	65	78
12	?	30
44	14	48

A. 14

B. 44

C. 62

D. 51

E. 15

3. Find the missing number.

4	8	20
9	3	15
6	6	?

A. 22

B. 18

C. 16

D. 26

E. 20

4. Find the missing number.

13	54	?
7	45	32
27	144	68

A. 42

B. 4

C. 6

D. 36

5. Find the missing number.

6	9	15
8	12	20
4	6	?

A. 5

B. 10

C. 21

D. 15

Answer Key

1. A

2. D

3. B

4. B

5. B