# BASED ON NUMBER (ANALOGY)

## What is Number Analogy?

In this type of Analogy, numbers are given in a pair or group on one side. The candidate has to find the relationship between them and then find the number or group of number which will replace the question mark in the other pair on other side. The relationship in Number Analogy can be of following types,

### 1. Even & Odd Numbers based Analogy

In this type of Analogy, numbers are classified with Odd/Even relation. Here all the questions are based on this relation only as given examples below,

**Ex 1. 76 : 64 : : 63 : 77**
**Ex 2. 22 : 74 : : 13 : 15**

Here in Ex 1 & Ex 2, the first 2 number pairs are Even Numbers and the next two numbers are Odd Numbers. These two pairs are made with common relationship.

**Ex 3. 15 : 88 : : 29 : 96**
**Ex 4. 83 : 92 : : 13 : 44**

Here in Ex 3 & Ex 4, the first pairs first number is an Odd Number and the second number is an Even Number. By using the found relationship the next pair should have the same relationship as the first pair has.

### 2. Multiplication & Division of Numbers based Analogy,

In this type of Analogy, all numbers are connected with the relationship of Multiplication or Multiples of a number / Division of numbers. The below examples will helps you to understand what is it,

**Ex 1. 5 : 15 : : 8 : 24**
**Ex 2. 6 : 12 : : 10 : 20**

Here in Ex 1, the second number is multiplied with a fraction to first number (i.e. 5 x 3) and the same fraction (i.e. x3) is multiples with the next pair's first number to get the second number.
(i.e. 5 x 3 = 15 similarly, 8 x 3 = 24), also

The same thing is done in Ex 2, as 6 x 2 = 12 and 10 x 2 = 20.

**Ex 3. 25 : 5 : : 45 : 9**
**Ex 4. 54 : 6 : : 81 : 9**

Here in Ex 3, the second number is divided with a number (i.e. 25 ÷5) and the same (i.e. ÷5) division is done with the next pair's first number to get the second number. (i.e. 25 ÷5 = 5 similarly, 45 ÷5 = 9), also
The same thing is done in Ex 4, as 54 ÷9 = 6 and 81 ÷9 = 9.

### 3. Addition & Subtraction of Numbers based Analogy, and

In this type of Analogy, all numbers will found with the relation of some Addition or Added with a number / Subtracted with a number. See some samples to get better understanding,

**Ex 1. 25 : 7 : : 46 : 10**
**Ex 2. 458 : 17 : : 124 : 7**

Here in Ex 1, All digits in the first number is Added to each other get the second a number (i.e. 2+5 = 7) and the same relation (i.e. Addition of each digit) is done with the next pair's first number to get the second number.
(i.e. 2+5 = 7 similarly, 4+6 = 10), also
The same thing is done in Ex 2, as 4+5+8 = 17 and 1+2+4 = 7.

**Ex 3. 57 : 2 : : 68 : -2**
**Ex 4. 458 : -9 : : 124 : 1**

Here in Ex 3, All digits in the first number is Subtracted to each other get the second a number (i.e. 5-7= 2) and the same relation (i.e. Subtraction of each digit) is done with the next pair‘s first number to get the second number.
(i.e. 5-7= 2 similarly, 6-8= -2), also
The same thing is done in Ex 4, as 4-5-8 = -9 and 1-2-4 = 1.

### 4. Square & Cube Roots of Numbers based Analogy, etc.,

In this Analogy, the numbers are related with the exponential powers (i.e. sq root, cube root or in some of its combinations), get practice with the below examples for this type of Analogy,

**Ex 1. 4 : 16 : : 7 : 49**
**Ex 2. 3 : 27 : : 8 : 512**

Here in Ex 1, the Second number is Square root of first number (i.e. $4^2 = 16$) and the same relation (i.e. Square root of first no. is second no.) is done with the next pair's first number to get the second number.
(i.e. $4^2 = 16$ similarly, $7^2 = 49$), also
The same thing is done in Ex 2, as $3^3 = 27$ and $8^3 = 512$.

### Format 1 – Choosing a Number based Number Analogy.

Choose a number which bears the same relationship with the third/four number as the first two bear.

**Ex 1 - 8 : 56 : : 9 : ?**

(a) 10
(b) 63
(c) 07
(d) 09

**Hint. (B) 8 x 7 = 56. similarly, 9 x 7 = 63**

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**Ex 2 - 56 : 47 : : 85 : ?**

(a) 20
(b) 76
(c) 28
(d) 88

**Hint. (B) 56 – 9 = 47. similarly, 85 – 9 = 76**

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### Format 2 – Choosing a similarly related pair as the given number pair based Number Analogy.

**Ex 1 - 4 : 16**

(a) 5 : 125
(b) 5 : 25
(c) 5 : 625
(d) 5 : 5

**Hint. (B) $4 : 4^2 = 16$. similarly, $5 : 5^2 = 25$**

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**Ex 2 - 8 : 515**

(a) 4 : 67
(b) 6 : 220
(c) 5 : 625
(d) 7 : 50

**Hint. (A) 8 : ($8^3$ + 3 )= 515.**

**Similarly, 4 : ($4^3$ + 3) = 67.**

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## Format 3 - Pick a Number similar to a Group of Numbers based Number Analogy.

**Ex 1 - 63, 54, 18**

(a) 35

(b) 69

(c) 72

(d) 55

**Hint. (C) 6 + 3 = 9, 5 + 4 = 9, 1 + 8 = 9.**

**Similarly, 7 + 2 = 9.**

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**Ex 2 - 42, 64, 31**

(a) 47

(b) 69

(c) 12

(d) 53

**Hint. (D) 4 - 2 = 2, 6 - 4 = 2, 3 - 1 = 2.**

**Similarly, 5 - 3 = 2.**

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## Format 4 – Find out the Number Set similar to a below Number Set based Number Analogy.

**Ex 1 - 50, 52, 56, 62**

(a) 3, 9, 12, 15

(b) 85, 86, 88, 91

(c) 14, 16, 20, 26

(d) 5, 25, 125, 625

**Hint. (C) 50 + 2 = 52, 52 + 4 = 56, 56 + 6 = 62.**

**Similarly, 14 + 2 = 16, 16 + 4 = 20, 20 + 6 = 26**