



PSPCL

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Punjab State Power Corporation Limited (PSPCL)

Volume - 2

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Reasoning & Arithmetic



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# 1

## CHAPTER

# English Alphabet Test



- This chapter includes questions based on the English alphabet (A–Z). Candidates should know the positions of all 26 letters and basic related concepts clearly.
- **Letters are of two types:**
  - ✓ Vowels – A, E, I, O, U (There are 5 vowels in the English alphabet.)

- ✓ Consonants – B, C, D, F, G, H, J, K, L, M, N, P, Q, R, S, T, V, W, X, Y, Z (There are 21 consonants in the English alphabet.)
- **The alphabet is divided into two halves:**
  - ✓ First Half – A to M (The first half contains 13 letters, i.e., positions 1 to 13.)
  - ✓ Second Half – N to Z (The second half contains 13 letters, i.e., positions 14 to 26.)

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26

### Short trick:

- **EJOTY** (इजोटी)

5	10	15	20	25
E	J	O	T	Y

- **CFILORUX** (सिफिलोरक्स)

3	6	9	12	15	18	21	24
C	F	I	L	O	R	U	X

- **Finding letters from the right side can be simplified using the formula:**

✓ Position from left = 27 – Position from right

- **Trick to Remember Opposite Letters**

<b>Pair</b>	<b>AZ</b>	<b>BY</b>	<b>CX</b>	<b>DW</b>	<b>EV</b>	<b>FU</b>	<b>GT</b>
Trick	AZ	BYe	Cracks	DeW	EVening	Few / Uff	G.T. Road

<b>Pair</b>	<b>HS</b>	<b>IR</b>	<b>JQ</b>	<b>KP</b>	<b>LO</b>	<b>MN</b>
Trick	High School	Indian Railway	Jaipur Queen	KanPur	Life OK	MaN

### Type-1 Position of a Letter in the English Alphabet

- If counting in the **same direction** (left to left or right to right), **subtract** both positions.
- If counting in **opposite directions** (left to right or right to left), **add** both positions.

**Ex:** In the English alphabet, what is the 10th letter to the left of the 21st letter from the left?

**Ans:** Using the trick: If counting in the same direction (left to left or right to right), subtract both positions.

English alphabet = 21-10= 11<sup>th</sup> alphabet = K

**Ex:** In the English alphabet, what is the 9th letter to the left of the 11th letter from the right?

**Ans:** In these types of question first we calculate from the left and then subtract from the 27.

Alphabet =  $11 + 9 = 20^{\text{th}}$  from the left

Original alphabet =  $27 - 20 = 7^{\text{th}}$  alphabet = G

### Type-2 Forming Letter Pairs

- The letter pair can be formed in both forward and backward directions.
- Multiple pairs can be created from a single word.
- After forming a pair with a letter, you can form another pair with the same letter if they are at the same distance according to the English alphabet.

**Ex:** How many such pairs of letters are there in the word 'COMBINE', each of which has as many letters between them in the word (both forward and backward direction) as they have between them in the English Alphabet?

**Ans:** First of all, we will write number of positions of 'COMBINE' word according to English alphabet i.e. C is written as 3 and O will be written as 15 and so on.

C	O	M	B	I	N	E
3	15	13	2	9	14	5

Here we can see that only B and E is making one pair.

### Type-3 Letter Problems

**Ex:** If the first and eighth letters of the word 'REPRESENTATIVE' are swapped, then the second and ninth letters, and so on, are also swapped, what will be the fourth letter to the left of the 6th letter from the left in the new arrangement?

**Ans:**

<b>Position</b>	1	2	3	4	5	6	7	8	9	10	11	12	13	14
<b>Original Letter</b>	R	E	P	R	E	S	E	N	T	A	T	I	V	E
<b>New Letter</b>	N	T	A	T	I	V	E	R	E	P	R	E	S	E

Fourth letter to the left of the 6th letter from the left =  $6 - 2 = 4^{\text{th}} = \text{T}$

### Type-4 Arrangement of English Words

- Arranging English words in alphabetical or dictionary order is called arrangement of words.

**Ex:** Arrange the following words according to English dictionary arrangement:

- (A) Epitaxy (B) Episode (C) Epigene  
(D) Epitome (E) Epilogue

**Ans:** In a Dictionary, every word is arranged alphabetically. Also, in each word each and every letter is positioned alphabetically. So here, dictionary the arrangement of words in a Dictionary, every word is arranged alphabetically.

(C) Epigene (E) Epilogue (B) Episode

(A) Epitaxy (D) Epitome

Therefore, the correct answer is (C), (E), (B), (A), (D)

### Type-5 Meaningful Logical Order of Words

**Ex:** How many meaningful words of 5 letters can be made with the alphabets K, E, D, H, I each being used only once in each word?



**Ans:** Given letters: K, E, D, H, I

Meaningful word can be formed out of the alphabets K, E, D, H, I:

HIKED: Walk for a long distance, Hence, only one such word is possible.

**Ex:** If a five-letter meaningful word can be formed by using the first, third, fifth, sixth and eighth letters from the word "HALLOWEEN", then what is the last letter from the left end of the newly formed word?

**Ans:** The 1st, 3rd, 5th, 6th, and 8th letters from the left end of the word "HALLOWEEN" are H, L, O, W, and E respectively. The only five-letter meaningful word that can be formed using the letters is WHOLE.

# 2

## CHAPTER

# Number and Alphabet Series Test



➤ A series is a systematic arrangement of numbers or letters within a defined group. In competitive exams, sequences of numbers, letters, or a mix of both are presented. One position in the sequence is either left blank or contains an incorrect number or letter. Candidates are tasked with completing the series by selecting the correct option to fill the blank or identify the incorrect element.

### Here's a clearer and concise way to solve number series problems:

- **Look for Patterns:** Check if the numbers are increasing or decreasing by a constant (addition/subtraction) or multiplied/divided by a constant (multiplication/division).
- **Find Differences:**
  - ✓ If the difference between consecutive numbers is the same, it's an arithmetic series (e.g., 2, 5, 8, 11).
  - ✓ If the second difference (difference of differences) is constant, it's a quadratic series.
- **Check for Multiplication/Division:** Look if each number is multiplied or divided by a constant to get the next number (e.g., 3, 6, 12, 24 where each number is doubled).
- **Recognize Special Sequences:**
  - ✓ **Squares:** 1, 4, 9, 16, ...
  - ✓ **Cubes:** 1, 8, 27, ...
  - ✓ **Fibonacci:** Each number is the sum of the two preceding ones (e.g., 0, 1, 1, 2, 3, 5).
- **Check for Ratios:** If the numbers increase by a constant ratio, it's a geometric progression (e.g., 2, 4, 8, 16).
- **Test the Options:** If options are provided, check which one follows the identified pattern.

### Type-1 Series in Increasing Order

Ex: In the following question, select the missing number from the given series.

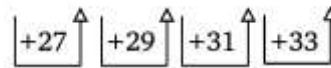


169, 196, 225, 256, \_?

1. 289
2. 324
3. 441
4. 361

Ans:

169   196   225   256   289



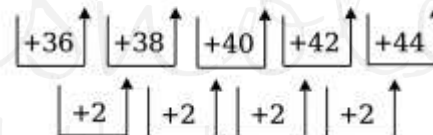
Ex: Which of the following numbers will replace the question mark (?) in the given series?

235, 271, ?, 349, 391, 435

1. 311
2. 307
3. 313
4. 309

Ans:

235   271   309   349   391   435



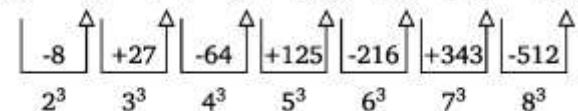
Ex: What number should replace question Mark (?) in the series given below.

55, 47, 74, 10, 135, -81, 262, ?

1. 774
2. -250
3. 343
4. -343

Ans:

55   47   74   10   135   -81   262   250

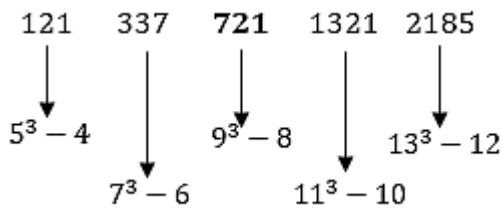


Ex: Find the missing number in the following series:

121, 337, ?, 1321, 2185

1. 713
2. 720
3. 721
4. 737

Ans:



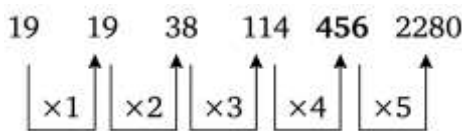
### Type-2 Multiplication Based Increasing Series

Ex: Select the number from among the given options that can replace the question mark (?) in the following series.

19, 19, 38, 114, ?, 2280

1. 344                      2. 1140
3. 456                      4. 224

Ans:

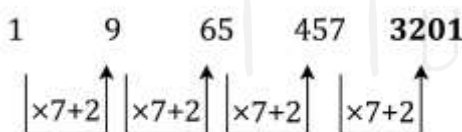


Ex: Which of the following numbers will replace the question mark (?) in the given series?

1, 9, 65, 457, ?

1. 4258                      2. 3125
3. 3201                      4. 5289

Ans:

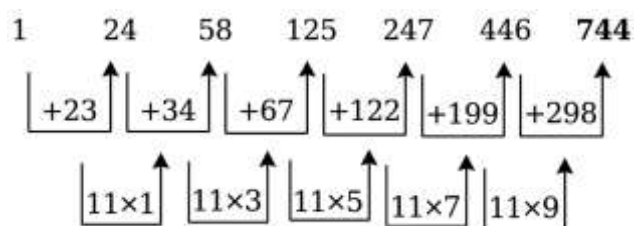


Ex: Which of the following numbers will replace the question mark (?) in the given series?

1, 24, 58, 125, 247, 446, ?

1. 774                      2. 747
3. 744                      4. 777

Ans:

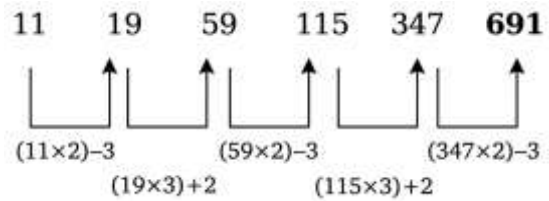


Ex: Select the number from among the given options that can replace the question mark (?) in the following series.

11, 19, 59, 115, 347, ?

1. 697                      2. 619
3. 679                      4. 691

Ans:



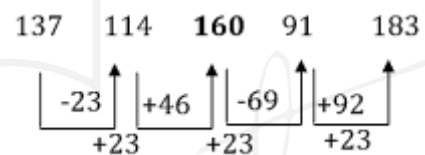
### Type-3 Addition and Subtraction Series

Ex: Which of the following number will replace the question mark (?) in the given series?

137, 114, ?, 91, 183

1. 145                      2. 160
3. 125                      4. 112

Ans:

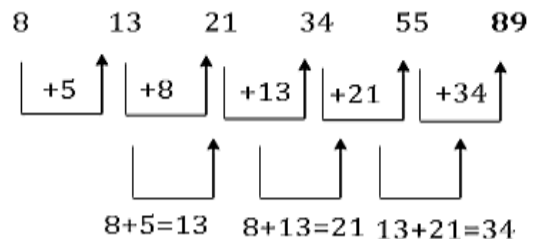


Ex: Which of the following numbers will replace the question mark (?) in the given series?

8, 13, 21, 34, 55, ?

1. 74                      2. 68                      3. 72                      4. 89

Ans:



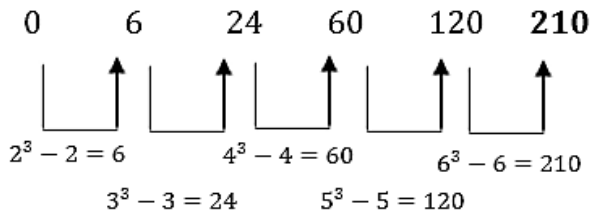
### Type-4 Square and Cube Based Series

Ex: Find the next term of the series:

0, 6, 24, 60, 120, ?

1. 180                      2. 210
3. 216                      4. 240

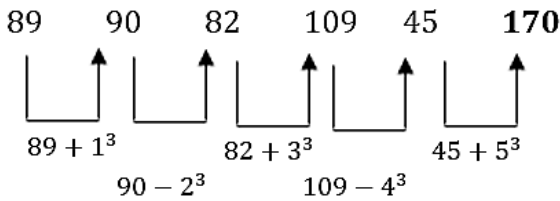
Ans:



Ex: Which number will replace the question mark (?) in the following series?

89, 90, 82, 109, 45, ?

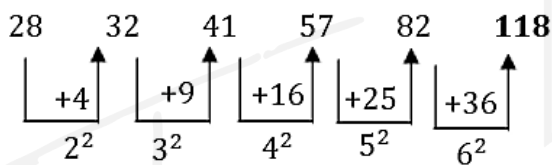
Ans:



Ex: Which number will replace the question mark (?) in the following series?

28, 32, 41, 57, 82, ?

Ans:

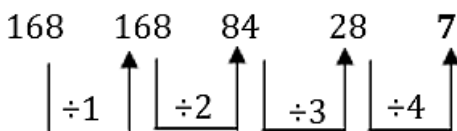


### Type-5 Division Based Decreasing Series

Ex: Which number will replace the question mark (?) in the following number series?

168, 168, 84, 28, ?

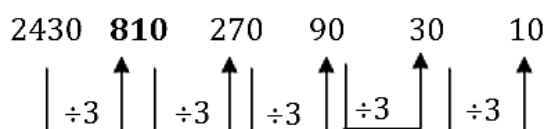
Ans:



Ex: Which number will replace the question mark (?) in the following series?

2430, ?, 270, 90, 30, 10

Ans:



### Type-6 Mixed Number Series

Ex: Find the next terms      11, 13, 17, 19, 23, ?

1. 27
2. 29
3. 31
4. 33

Ans:

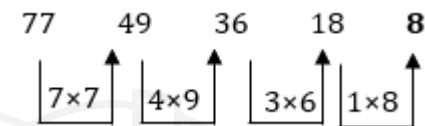
11 → Prime number  
13 → Prime number  
17 → Prime number  
19 → Prime number  
23 → Prime number  
Next prime number = 29

Ex: What will come in place of the question mark (?) in the following series?

77, 49, 36, 18, ?

1. 10
2. 12
3. 8
4. 16

Ans:

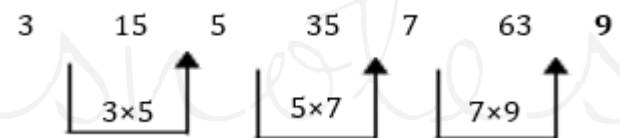


Ex: What will come in place of the question mark (?) in the following series?

3, 15, 5, 35, 7, 63, ?

1. 10
2. 126
3. 9
4. 84

Ans:

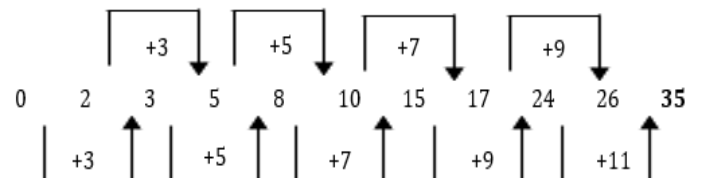


Ex: In the following series, what comes in place of the question mark (?)?

0, 2, 3, 5, 8, 10, 15, 17, 24, 26, ?

1. 28
2. 30
3. 32
4. 35

Ans:



Ex: Select the number from among the given options that can replace the question mark (?) in the following series.

62, 74, 80, 86, 95, ?, 158

1. 113
2. 100
3. 108
4. 122

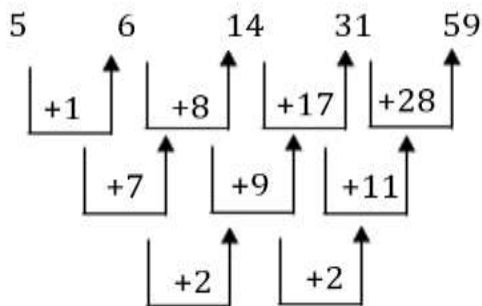


**Ex: Find the wrong term from the given number series.**

5, 7, 14, 31, 59

1. 31                    2.5  
3. 59                    4.7

**Ans:** Correct answer in 7



In the place of 6, it is written 7, so the answer is 7.

**Ex: Find the Wrong number in the given number series:**

6, 7, 10, 13, 21, 37

1. 10                    2. 37  
3. 6                    4. 13  
5. 21

**Ans:**

The given number series follows the pattern:

$$6 + 2^0 = 7 \qquad 7 + 2^1 = 10$$

$$10 + 2^2 = 14 \qquad 14 + 2^3 = 26$$

$$26 + 2^4 = 66 \qquad 66 + 2^5 = 210$$

Wrong Number in the given number series is 10.

### Type-8 Alphabet Series

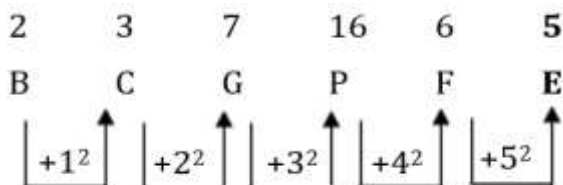


**Ex: Which of the following letters will replace the question mark (?) and complete the following letter series?**

B, C, G, P, F, ?

1. F                    2. E  
3. C                    4. D

**Ans:**



**Ex: A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.**

ABCD, CUKA, ENSX, GGAU, ?

1. IQRT                    2. MNOQ  
3. IRQT                    4. IZIR

**Ans:**

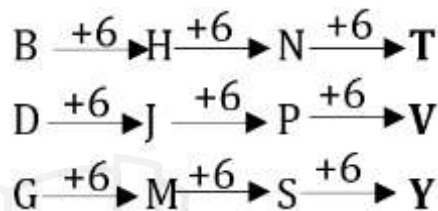
**Logic:**

- In the first letter, add 2 to its position in the English alphabet.
  - In the second letter, subtract 7 from its position.
  - In the third letter, add 8 to its position.
  - In the fourth letter, subtract 3 from its position.
- Hence, "IZIR" is the correct answer.

**Ex: A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.**

BDG, HJM, NPS, ?

**Ans:**



**Ex: A series is given, with one term missing. Choose the correct alternative from the given ones that will complete the series.**

KIMnO, qRs Tu, WxYzA, cDeFg, ?

1. iJkLm                    2. HiJkL  
3. IjKIM                    4. hijkl

**Ans:**

The pattern consists of groups of five letters arranged in the English alphabetical order. After each term, one letter is skipped. Additionally, letters follow an alternating pattern of uppercase and lowercase.

After 'g', the next omitted letter is 'h'. Also, the first letter and every alternate letter must be in uppercase.

Hence, the missing term is IjKIM.

### Type-9 Mixed Series

**Ex: A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.**

FK27, LQ64, RW125, ?

1. CX216                    2. XB216  
3. XC216                    4. YB343



**Ans:**

Letters follow +6 steps in the alphabet  
F → L → R → X and K → Q → W → C (after Z it starts from A)

Numbers are cubes of consecutive numbers

27 = 3<sup>3</sup>, 64 = 4<sup>3</sup>, 125 = 5<sup>3</sup>, 216 = 6<sup>3</sup>

Final answer XC216

**Ex: Find the missing term. C4X, F9U, 116R,**

1. L25P
2. L250
3. L270
4. L27P

**Ans:**

**First part (letters):**

C → F → I → L (each +3)

Second part (numbers):

4 → 9 → 16 → 25 (perfect squares 2<sup>2</sup>, 3<sup>2</sup>, 4<sup>2</sup>, 5<sup>2</sup>)

**Third part (letters):**

X → U → R → O (each -3)

So, the missing term is L250

**Ex:** What will be the next term in the following category?

**G7Z26, H8X24, I9V22, \_\_\_\_\_?**

1. J10T20
2. W23J10
3. J10W23
4. W23T20

**Ans:**

First letter: G → H → I → J (+1 each step)

Number: 7 → 8 → 9 → 10 (+1 each step)

Second letter: Z → X → V → T (-2 each step)

Last number: 26 → 24 → 22 → 20 (-2 each step)

Final answer: J10T20

### Type-10 Consecutive Series

In such questions, a sequence of letters and/or numbers is given, formed using uppercase and/or lowercase English alphabets along with numerical values, following a specific pattern from left to right. Certain positions in the sequence are left blank. The task is to identify the correct letters or numbers that should fill these blanks, assuming the pattern continues consistently.

**Ex: Select the option that represents the letters that, when sequentially placed from left to right in the blanks below, will complete the letter series.**

**A \_ JL DG LAD J AD \_ L**

1. DGALGLGJ
2. DGAJGLGJ
3. DAGJGLGL
4. DGALGJGJ

**Ans:**

Observe carefully:

- The series follows a repeating pattern of ADGLJ (with slight shifts).

- Letters appear in a cyclic order:

A → D → G → J → L → A...

- Fill the blanks to maintain this consistent progression.

**Filling accordingly:**

A D G J L A D G L L A D G J L A D G J L

So, the missing letters are:

D G A L G J G J

**Ex: Which one set of letters when sequentially placed at the gaps in the given letter series shall complete it?**

**mc\_bcm\_cbbc\_m\_bbcm**

1. mccb
2. bcmb
3. cbmb
4. Bmmc

**Ans:**

- mccb → mc**m**bcm/c**b**bbc/m**b**bbcm

- bcmb → mc**b**bcm/c**b**bbc/m**b**bbcm

- cbmb → mc**c**bcm/**b**cbbcm/m**b**bbcm

- bmmc → mc**b**bcm/**m**cbbcm/m**c**bbcm

Hence, 'bmmc' is the correct answer.

**Ex: Select the option that represents the letters that, when sequentially placed from left to right in the blanks, will complete the letter series.**

**g\_c\_p\_c\_bc\_ps\_g\_cp\_sc**

1. bpsppsbp

2. bpcgpsbp

3. bpsgpcbp

4. Bpspgcbp

**Ans:**

- bpsppsbp → g**b**c**p**p**s**c**p**b**c**p**p**s**s**g**b**c**p**p**s**c

- bpcgpsbp → g**b**c**p**p**c**g**b**c**p**p**s**s**g**b**c**p**p**s**c**

- bpsgpcbp → g**b**c**p**p**s**g**b**c**p**p**s**c**g**b**c**p**p**s**c**

- bpspgcbp → g**b**c**p**p**s**c**p**b**c**g**p**s**c**g**b**c**p**p**s**c

Hence, 'bpsgpcbp' is the correct answer.

**Ex: Select the option that represents the letters that, when placed from left to right in the same sequence in the blanks below, will complete the letter series.**

**D \_ B \_ A \_ C \_ \_ G F \_ E \_ \_ H**

1. BACDEFGH

2. CABDHEFG

3. BACDHEFG

4. CABDEFGH

**Ans:**

D \_ B \_ A \_ C \_ \_ G F \_ E \_ \_ H

Reverse

Reverse

Order

Order

Forward

Forward

Order

Order

**CABDHEFG → DCBA/ABCD/HGFE/EFHG**

# 3

## CHAPTER

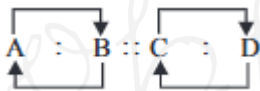
# Analogy Test



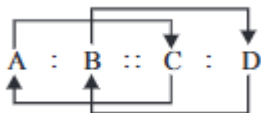
- Analogy tests involve identifying similarities between two terms. In this chapter, we explore the relationships between different elements. Such questions are included in exams to evaluate a candidate's knowledge, reasoning, and cognitive abilities.
- Analogy questions are based on specific relationships. To solve these questions effectively, candidates should follow these two steps:

**Step 1:** Determine the relationship between the first two terms given in the question.  
**Step 2:** Apply the identified relationship to the remaining terms and choose the correct answer.

**Rule:1 Basic relationship:** In the analogy A: B:: C:D, the relationship between A and B will be the same as the relationship between C and D or D and C.



**Rule:2 Developed Relationship:** In the analogy A:B:: C:D, the relationship between A and C, or C and A, will be the same as the relationship between B and D, or D and B. It is not necessary that the relationship is directly committed; it may vary.



### Type-1 Word Analogy

#### Common Relationship Patterns

- **Synonym & Antonym:** Famous: Renowned :: Important: Significant (Same); Big: Small :: Sharp: Blunt (Opposite).

- **Tool/Instrument & Action/Function:** Needle: Sew :: Knife: Cut (Instrument-Action).
- **Unit/Part & Whole:** Petal: Flower:: Page: Book.
- **Worker & Tool/Working Place:** Artist: Brush:: Farmer : Plough; Doctor : Hospital :: Teacher : School.
- **Gender/Individual & Group:** Lion: Lioness:: Dog: Bitch.
- **Topic/Category:** Country: Capital (India: New Delhi):: State: Capital (Maharashtra: Mumbai).

Type of Relation	Example
<b>Antonyms/ Synonyms</b>	Believer: Atheist, Import: Export, Victory: Defeat, Living: Non-living
<b>Country and Continent</b>	India: Asia, Ghana: Africa, Canada: North America, France: Europe
<b>Country and Capital</b>	China: Beijing, Nepal: Kathmandu, Japan: Tokyo, Sri Lanka: Colombo
<b>Country and Currency</b>	China: Yuan, Japan: Yen, Italy: Lira, Myanmar: Kyat
<b>Country and Parliament</b>	India: Parliament, Afghanistan: Shora, Iran: Majlis, Japan: Diet
<b>Country and National Symbol</b>	India: Ashoka Chakra, Spain: Eagle, France: Lily, Iran: Rose

<b>Country and National Sport</b>	Britain: Cricket, India: Hockey, Japan: Judo, Spain: Bullfighting
<b>Country and River</b>	India: Ganga, China: Yangtze, Italy: Tiber, Britain: Thames
<b>City and River</b>	London: Thames, Rome: Tiber, Paris: Seine, Delhi: Yamuna
<b>City and Industry</b>	Mumbai: Film Production, Manchester: Cotton, Pittsburgh: Iron and Steel, Detroit: Automobiles
<b>State and Capital</b>	Uttar Pradesh: Lucknow, Uttarakhand: Dehradun, Jharkhand: Ranchi, Chhattisgarh: Raipur
<b>Union Territory and Capital</b>	Lakshadweep: Kavaratti, Dadra and Nagar Haveli: Silvassa
<b>State and High Court</b>	Uttar Pradesh: Allahabad, Uttarakhand: Nainital, Rajasthan: Jodhpur, Bihar: Patna
<b>Product and Raw Material</b>	Curd: Milk, Shoe: Leather, Sugar: Sugarcane, Liquor: Grapes
<b>Worker and Product</b>	Goldsmith: Jewellery, Cobbler: Shoes, Cook: Food, Masons: House
<b>Person and Workplace</b>	Doctor: Hospital, Teacher: School, Farmer: Field, Judge: Court
<b>Person and Tool</b>	Blacksmith: Hammer, Mason: Trowel, Farmer: Plough, Carpenter: Saw

<b>Tool and Work</b>	Pen: Writing, Scissors: Cutting, Spoon: Eating, Glasses: Seeing
<b>Animal and Habitat</b>	Lion: Cave, Horse: Stable, Rat: Hole, Bird: Nest, Bee: Beekeeping, Fish: Fishing
<b>Revolution and Production Area</b>	White Revolution: Milk Yellow Revolution: Oilseed
<b>Animal and Sound</b>	Dog: Barking, Lion: Roaring, Horse: Neighing, Cat: Meowing
<b>Animal and Offspring</b>	Dog: Puppy, Lioness: Cub, Cow: Calf, Sheep: Lamb
<b>Disease and Affected Organ</b>	Pyorrhoea: Teeth, Trachoma: Eyes, Jaundice: Liver, Tuberculosis: Lungs
<b>Location and Place</b>	Taj Mahal: Agra, Hawa Mahal: Jaipur, Jahaz Mahal: Mandu, Red Fort: Delhi
<b>Person and Samadhi Place</b>	Mahatma Gandhi: Raj Ghat, Lal Bahadur Shastri: Vijay Ghat, Chaudhary Charan Singh: Kisan Ghat
<b>Sport and Court</b>	Badminton: Court, Hockey: Field, Boxing: Ring, Shooting: Range
<b>Sport and Cup/Trophy</b>	Cricket: Dilip Trophy, Football: Durand Cup, Hockey: Dhyan Chand Trophy, Golf: Ryder Cup
<b>Award and field</b>	Booker Prize: Literature, Grammy Award: Music, Oscar Award: Film

**Instructions:** In the following question, select the related number from the given alternatives.

Ex: Car: Road :: Rail : \_\_\_\_.

- (A) Water (B) Air  
(C) Road (D) Track

Ans: Just as a car runs on a road, a train (rail) runs on a track.

Ex: Light: Lumen:: \_\_?\_\_ : \_\_?\_\_

- (A) Temperature: Candela  
(B) Density: Kilogram  
(C) Pressure: Pascal  
(D) Force: Meter

Ans: Lumen is the unit of light, and Pascal is the unit of pressure. Both pairs represent the relationship between a physical quantity and its corresponding unit.

Ex: Person: Biography:: \_\_?\_\_ : \_\_?\_\_

- (A) World: Encyclopaedia  
(B) Nation: History  
(C) Place: Economy  
(D) Country: Constitution

Ans: A biography is a written account of a person's life, and history is a written account of a nation's past. Both pairs reflect a relationship between a subject and its written or recorded account.

Ex: Just as 'Taj Mahal' is related to 'Agra', in the same way, 'Lal Bagh' is related to which place?

- (A) Bengaluru (B) Delhi  
(C) Haridwar (D) Madhya Pradesh

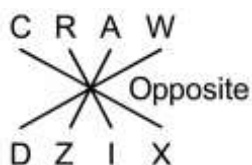
Ans: Just as 'Taj Mahal' is located in Agra, 'Lal Bagh' is located in Bengaluru.

### Type-2 Letter Analogy

Ex: Select the option that is related to the third term in the same way as the second term is related to the first term.

CRAW: DZIX:: MOCK:?

Ans: For CRAW: DZIX

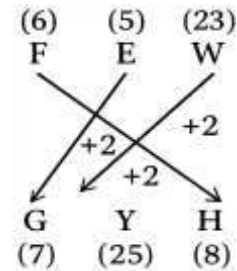


Similarly, for MOCK,



Ex: Select the option that is related to the third letter - cluster in the same way as the second letter - cluster is related to the first letter - cluster. FEW: GYH :: YOU : ?

Ans: For, FEW: GYH

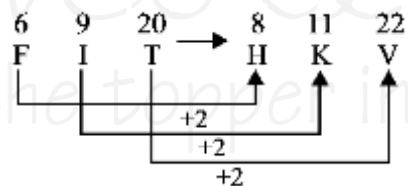


Similarly, YOU:?

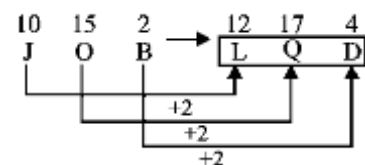


Ex: FIT: HKV:: JOB:?

Ans: logic



Similarly



Ans: JOB: LQD

### Type-3 Number Analogy

#### Square



Number	Square	Number	Square
1	1	2	4
3	9	4	16

5	25	6	36
7	49	8	64
9	81	10	100
11	121	12	144
13	169	14	196
15	225	16	256
17	289	18	324
19	361	20	400
21	441	22	484
23	529	24	576
25	625	26	676
27	729	28	784
29	841	30	900
31	961	32	1024
33	1089	34	1156
35	1225	36	1296
37	1369	38	1444
39	1521	40	1600

### Cube

Number	Cube	Number	Cube
1	1	2	8
3	27	4	64
5	125	6	216
7	343	8	512
9	729	10	1000
11	1331	12	1728
13	2197	14	2744
15	3375	16	4096
17	4913	18	5832
19	6859	20	8000

### Based on square

Ex: 6:36::11: ?

Ans:  $6^2=36$ ,  $11^2=121$

### Based on cube

Ex: 8:512::10:?

Ans:  $8^3=512$ ,  $10^3=1000$

### Based on addition

Ex: 389: 392:: 450:?

Ans:  $389+3=392$   $450+3=453$

### Based on subtraction

Ex: 389:384::450:?

Ans:  $389-5=384$   $450-5=445$

### Based on multiplication

Ex: 7:56::6:?

Ans:  $7 \times 8=56$   $6 \times 8=48$

### Based on division

Ex: 35:7::25:?

Ans:  $35 \div 7=5$   $25 \div 5=5$

### Based on number group

Select the set in which the numbers are related in the same way as are the numbers of the following sets. (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g. 13 - Operations on 13 such as adding /subtracting/ multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed)

Ex: (15, 25, 35) (45, 55, 65)

(1) (55, 65, 75) (2) (45, 55, 70)

(3) (55, 75, 85) (4) (55, 60, 70)

Ans: Logic

$15 \xrightarrow{+10} 25 \xrightarrow{+10} 35$   
 $45 \xrightarrow{+10} 55 \xrightarrow{+10} 65$

We check each option.

$$55 \xrightarrow{+10} 65 \xrightarrow{+10} 75$$

The set that relates in the same way as the given sets is Option (1) (55, 65, 75).

Ex: (7, 49, 343) (8, 64, 512)

(1) (6, 36, 206) (2) (5, 25, 225)

(3) (11, 121, 1221) (4) (9, 81, 729)

Ans: Logic

$$(7, 49, 343) = (7, 7^2, 7^3)$$

$$(8, 64, 512) = (8, 8^2, 8^3)$$

(6, 36, 206): 36 is  $6^2$ , so it's the square of 6: 206 is not  $6^3$  (which is 216), so this does not follow the pattern.

(5, 25, 225): 25 is  $5^2$ , so it's the square of 5: 225 is  $5^3$ , so it's the cube of 5.

(11, 121, 1221): 121 is  $11^2$ , so it's the square of 11: 1221 is not  $11^3$  (which is 1331), so this does not follow the pattern.

(9, 81, 729): 81 is  $9^2$ , so it's the square of 9: 729 is  $9^3$ , so it's the cube of 9.

Option (4) seems to be the most accurate match in terms of following the same pattern.

Ex: (2, 7, 81) (5, 6, 121)

(1) (7, 5, 134) (2) (5, 4, 100)

(3) (6, 2, 36) (4) (6, 7, 169)

Ans:

$$2+7=9 \quad 9^2=81$$

$$5+6=11 \quad 11^2=121$$

$$7+5=12 \quad 12^2=144 \neq 134$$

$$5+4=9 \quad 9^2=81 \neq 100$$

$$6+2=8 \quad 8^2=64 \neq 36$$

$$6+7=13 \quad 13^2=169=169$$

### Type- 4 Letter-Number Analogy

➤ In these types of questions, there is a relationship between English letters and numbers. This relationship can exist in the form of corresponding numbers for the English letters or in other forms.

Ex: Instructions: On the left side of the symbol, a letter/letter pair and numbers are given, and on the right side, a letter/letter pair and a question mark (?) are provided. You need to identify which number from the given options on the right side maintains the same relationship with the right-side letter/letter pair as the left-side letter/letter pair and number.

Ex: Vijay: 05 :: Shubham:?

Ans:

Number of alphabets in 'Vijay' = 5

So, from this logic

Number of alphabets in 'Shubham' = 7

Ex: Select the option that is related to the fifth letter-number cluster in the same way as the second letter-number cluster is related to the first letter-number cluster and fourth letter-number cluster is related to third letter-number cluster.

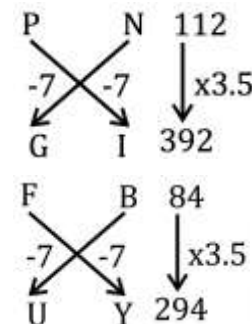
(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g. 13 Operations on 13 such as adding / subtracting / multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed)

PN112: G1392 :: FB84: UY294 :: AR56:?

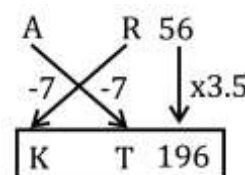
1. KT204      2. KT196

3. LS204      4. LS196

Ans:



Similarly,



The correct answer is option 2.

# Classification Test



➤ Classification involves organizing words into groups, categories, or classes based on common characteristics, highlighting the differences between them. In this process, three or four words belong to the same group, sharing a common feature, while the remaining word does not fit with the others, making it the odd one out. The task is to identify the word that does not belong to the group.

➤ **Steps:**

- ✓ **Understand the Question:** Identify the set and goal (odd one out or grouping).
- ✓ **Identify Categories:** Group items based on common features (e.g., animals, objects).
- ✓ **Find the Odd One Out:** Look for differences or unrelated items.
- ✓ **Use Logical Reasoning:** Compare attributes like function, type, or properties.
- ✓ **Eliminate Items:** Remove similar items and focus on the odd one.
- ✓ **Check Patterns:** Look for sequences or relationships between items.

## Type-1 Word Classification

In this type of question, a set of words is provided as options; with the exception of one, all the other words belong to the same group, category, or class, whereas the single remaining word belongs to a different—that is, distinct—group, category, or class. You are asked to select this specific word that belongs to a different group, category, or class—that is, the incongruous, mismatched, or dissimilar word. Some of the key similarities among words are as follows:

1. Semantic similarity
2. Functional similarity
3. Structural similarity

4. Numerical similarity
5. Positional similarity
6. Similarity of rank/status
7. Similarity of utility
8. Categorical similarity
9. Similarity based on specific domain relationships
10. Similarity based on internal relationships
11. Technical similarity

**Ex: Directions: Out of four words, three have something in common and one is different. Identify the different one.**

- |              |                |
|--------------|----------------|
| 1. Air fryer | 2. Shredder    |
| 3. Scanner   | 4. Fax machine |

**Ans:** The logic is based on types of devices.

**Air fryer** - A kitchen appliance used for cooking.

**Shredder** - An office device used to destroy documents.

**Scanner** - An office device used to scan documents.

**Fax machine** - An office device used to send documents.

Among these, Shredder, Scanner, and Fax machine are office-related devices, while Air fryer is a kitchen appliance.

**Ex: Three of the following four words are alike in a certain way and one is different. Select the odd one.**

- |             |                   |
|-------------|-------------------|
| 1. Goggles  | 2. Spectacles     |
| 3. Bifocals | 4. Optical Reader |

**Ans:** Goggles, spectacles, and bifocals are worn by humans, whereas an optical reader is not worn. It is a device commonly found in computer scanners, which captures visual information and converts it into digital data that the computer can process and display. Therefore, option 4 is the correct answer.

## Type-2 Word Pair Based Classification

Ex: Directions: In each of the following questions, certain pairs of words are given, out of which the words in all pairs except one, bear a certain common relationship. Choose the pair in which the words are differently related

1. Sky: Cloud
2. Purse: Wallet
3. Cupboard: Almirah
4. Chair: Stool

Ans:

- (1) Sky: Cloud → Cloud is not a type of Sky.
  - (2) Purse: Wallet → Wallet is a type of Purse.
  - (3) Cupboard: Almirah → Almirah is a type of Cupboard.
  - (4) Chair: Stool → Stool is a type of Chair.
- Hence, Sky: Cloud is the odd one out.

Ex: Four pair of words have been given, out of which three pairs are alike in some manner and one is different. Select the pair of words that is different.

1. Boxing: Ring
2. Golf: Course
3. Baseball: Diamond
4. Pool: Swimming

Ans:

Sports	Play area
Boxing	Ring
Golf	Course
Baseball	Diamond
Swimming	Pool

Here in Option 4, Play area is given first and then the sport. Whereas in other options, the sport is given first and then the play area.

## Type-3 Letter Classification

Ex: Three of the four letter-clusters in the given options are alike in a certain way and thus form a group. Find the one that does not belong to that group

1. USX
2. OMR
3. LJO
4. RPV

Ans:

$$\begin{array}{l}
 U \xrightarrow{-2} S \xrightarrow{+5} X \\
 O \xrightarrow{-2} M \xrightarrow{+5} R \\
 L \xrightarrow{-2} J \xrightarrow{+5} O \\
 R \xrightarrow{-2} P \xrightarrow{+4} V
 \end{array}$$

Thus, out of all 'RPV' is the odd one out.

Ex: Based on the English alphabetical order, three of the following four letter-cluster pairs are alike in a certain way and thus form a group. Which letter-cluster pair DOES NOT belong to that group? (Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)

1. WY-PS
2. PR-GI
3. RT-IK
4. VX-MO

Ans:

$$\begin{array}{cccc}
 W(23) & Y(25) & P(16) & R(18) \\
 \downarrow -7 & \downarrow -6 & \downarrow -9 & \downarrow -9 \\
 P(16) & S(19) & G(7) & I(9) \\
 R(18) & T(20) & V(22) & X(24) \\
 \downarrow -9 & \downarrow -9 & \downarrow -9 & \downarrow -9 \\
 I(9) & K(11) & M(13) & O(15)
 \end{array}$$

Thus, out of all 'WYPS' is the odd one out.

Ex: Four words are given out of which three are alike in a certain way and one is different. Select the odd one out.

1. CHEST
2. NIGHT
3. BLACK
4. TRUTH

Ans: The pattern follows here is;

- (1) CHEST (E i.e. Vowel in the middle of the Word)
- (2) NIGHT (I i.e. Vowel is not in the middle of the Word)
- (3) BLACK (A i.e. Vowel in the middle of the Word)
- (4) TRUTH (U i.e. Vowel in the middle of the Word)

Hence, the correct answer is "NIGHT".

Ex: Choose the odd one out of the given options.

1. BIJ
2. DGJ
3. FGH
4. CHI

Ans:

Option	Letter	Position Value of Letter
1	BIJ	2 + 9 + 10 = 21
2	DGJ	4 + 7 + 10 = 21
3	FGH	6 + 7 + 8 = 21
4	CHI	3 + 8 + 9 = 20

Hence, "CHI" is the correct option.

**Ex: Three of the following four letter-clusters are alike in a certain way and is different. Find the odd one out.**

1. KORVA                      2. TXBFJ  
3. NRVZD                     4. PTXBF

**Ans:**

KORVA → K+4=O, O + 3 = R, R + 4 = V, V + 5 = A

TXBFJ → T+4= X, X + 4 = B, B + 4 = F, F + 4 = J

NRVZD → N + 4 = R, R + 4 = V, V + 4 = Z, Z + 4 = D

PTXBF → P+4=T, T + 4 = X, X + 4 = B, B + 4 = F

Hence, 'KORVA' is the odd one out.

**Ex: Four letter-clusters have been given, out of which three are alike in some manner and one is different. Select the letter-cluster that is different.**

1. BASK                        2. SPIT  
3. TRAM                       4. MOVE

**Ans:**

1. BASK → 3 Consonants, 1 Vowel

2. SPIT → 3 Consonants, 1 Vowel

3. TRAM → 3 Consonants, 1 Vowel

4. MOVE → 2 Consonants, 2 Vowels

Hence, 'MOVE' is the odd one out.

### **Type-4 Number Classification**

Priority lists to be followed in exams according to their preferences are:

1. Prime number.
2. Square.
3. Cube.
4. Multiplication and divisions
5. Addition and subtraction.

**Ex: Find the odd one out in each of these questions.**

1. 69, 43                      2. 63,47  
3. 34,85                      4. 65, 23

**Ans:**

69, 43 Composite number and prime number

63, 47 Composite number and prime number

**34, 85 Both Composite numbers**

65, 23 Composite number and prime number

**In the following question, four number pairs are given. In each pair the number on left side of (-) is related to the number of the right side of (-) with some Logic/Rule/Relation. Three pairs are similar on the basis of same Logic/Rule/Relation. Select the odd one out from the given alternatives.**

**(NOTE: Operations should be performed on the whole numbers, without breaking down the number into its constituent digits. E.g. 13 Operations on 13 such as adding / subtracting / multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed)**

- Ex:**    1. 13-169                      2. 12-144  
         3. 11-121                      4. 10-110

**Ans: Logic: (First number)<sup>2</sup> = Second number**

(13)<sup>2</sup> = 169    (12)<sup>2</sup> = 144

(11)<sup>2</sup> = 121    (10)<sup>2</sup> = 100 ≠ 110

Hence, the correct answer is "Option 4".

- Ex:**    1. 11408-10818                      2. 10806-10216  
         3. 9762-9182                      4. 8644-8054

**Ans:**

11408-10818 = 590

10806-10216 = 590

9762-9182 = 580

8644-8054 = 590

Hence, the correct answer is "Option 3".

- Ex:**    1. 28125-3125                      2. 11322-1258  
         3. 49374-5483                      4. 49401-5489

**Ans: Logic: 1st number ÷ 9 = 2nd number.**

28125 ÷ 9 = 3125

11322 ÷ 9 = 1258

49374 ÷ 9 = 5486 ≠ 5483.

49401 ÷ 9 = 5489

So, '49374-5483' odd among the given options.

- Ex:**    1. 829                                      2. 643  
         3. 821                                      4. 237

**Ans: Logic: Numbers are prime numbers except only one number.**

1) 829: Prime number (divisible only by 1 and 829)

2) 821: Prime number (divisible only by 1 and 821)

- 3) 643: Prime number (divisible only by 1 and 643)  
 4) 237: Not prime number (divisible by 1, 3, 79 and 237)

**Ex: Four options have been given out of which three are alike in some manner, while one is different. Choose the odd one.**

1. 2321                                      2. 825  
 3. 1521                                      4. 968

**Ans:** All the numbers except option (3), the given numbers are the multiple of 11.

Option 1: 2321 → Multiple of 11

Option2: 825 → Multiple of 11

Option3: 1521 → Not a multiple of 11

Option4: 968 → Multiple of 11

Therefore, 1521 is the odd one option.

**Ex: Three of the following four number-pairs are alike in a certain way and one is different.**

**Select the one that is different.**

1. 5:105                                      2. 6:180  
 3. 7:294                                      4. 3:18

**Ans:**

$$5:105 \rightarrow 5^3 - 5^2 \rightarrow 125 - 25 = 100$$

$$6:180 \rightarrow 6^3 - 6^2 \rightarrow 216 - 36 = 180$$

$$7:294 \rightarrow 7^3 - 7^2 \rightarrow 343 - 49 = 294$$

$$3:18 \rightarrow 3^3 - 3^2 \rightarrow 27 - 9 = 18$$

Hence, 5: 105 is different from other three alternatives.

**Ex: In the following question, four number groups are given. In each group the three numbers are related to each other by some Logic/Rule/ Relation. Three are similar on basis of same Logic/Rule/Relation. Select the odd one out from the given alternatives.**

1. (12, 24, 41)                              2. (13, 26, 43)  
 3. (16, 32, 49)                              4. (17, 34, 53)

**Ans:**

$$(12, 24, 41) \rightarrow 12 \times 2 = 24$$

$$24 + 17 = 41$$

$$(13, 26, 43) \rightarrow 13 \times 2 = 26$$

$$26 + 17 = 43$$

$$(16, 32, 49) \rightarrow 16 \times 2 = 32$$

$$32 + 17 = 49$$

$$(17, 34, 53) \rightarrow 17 \times 2 = 34$$

$$34 + 17 = 51 \neq 53$$

Hence, "(17, 34, 53)" is the odd one out.

**Ex: Four number-pairs have been given, out of which three are alike in some manner and one is different. Select the one that is different.**

1. 548-105                                      2. 113-15  
 3. 166-73                                      4. 316-46

**Ans:**

$$\text{Option 1} \rightarrow 5^2 + 4^2 + 8^2 = 105$$

$$\text{Option 2} \rightarrow 1^2 + 1^2 + 3^2 = 11 \neq 15$$

$$\text{Option 3} \rightarrow 1^2 + 6^2 + 6^2 = 73$$

$$\text{Option 4} \rightarrow 3^2 + 1^2 + 6^2 = 46$$

All option follows the same pattern, except '113-15'

**Ex: Select the odd numbers from the given alternatives.**

1. 94    2. 63    3. 35    4. 18

$$\text{Ans: } 94 \rightarrow \text{reverse } 49 \rightarrow 7^2$$

$$63 \rightarrow \text{reverse } 36 \rightarrow 6^2$$

$$35 \rightarrow \text{reverse } 53 \rightarrow \text{no square}$$

$$18 \rightarrow \text{reverse } 81 \rightarrow 9^2$$

**Ex: In the following question, four groups of three numbers are given. In each group, numbers are related by a Logic/Rule/Relation. Three are similar on the basis of the same Rule/Relation/Logic. Select the odd one from the given alternatives.**

1. (8, 43, 29)                              2. (11, 58, 38)  
 3. (14, 73, 47)                              4. (17, 72, 90)

**Ans:**

$$(8, 43, 29) \rightarrow (8 \times 5) + 3 = 43, (8 \times 3) + 5 = 29$$

$$(11, 58, 38) \rightarrow (11 \times 5) + 3 = 58, (11 \times 3) + 5 = 38$$

$$(14, 73, 47) \rightarrow (14 \times 5) + 3 = 73, (14 \times 3) + 5 = 47$$

$$(17, 72, 90) \rightarrow (17 \times 5) + 3 = 88 \neq 72; (17 \times 3) + 5 = 56 \neq 90$$

Hence, (17, 72, 90) is the odd one out.