SESSION : 20

CLASS : V

SUBJECT : MATHEMATICS

CHAPTER NUMBER: 8

CHAPTER NAME : FACTORS AND MULTIPLES

SUB-TOPIC : Co-prime , twin prime, properties of factors and multiples & Exercise 8 A Q.No. 4

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LEARNING OBJECTIVE :

Enable the students

- **To understand the difference between multiples and factors**
- **To understand the concept of co-prime, twin prime numbers.**
- **To understand the properties of Factors and multiples.**

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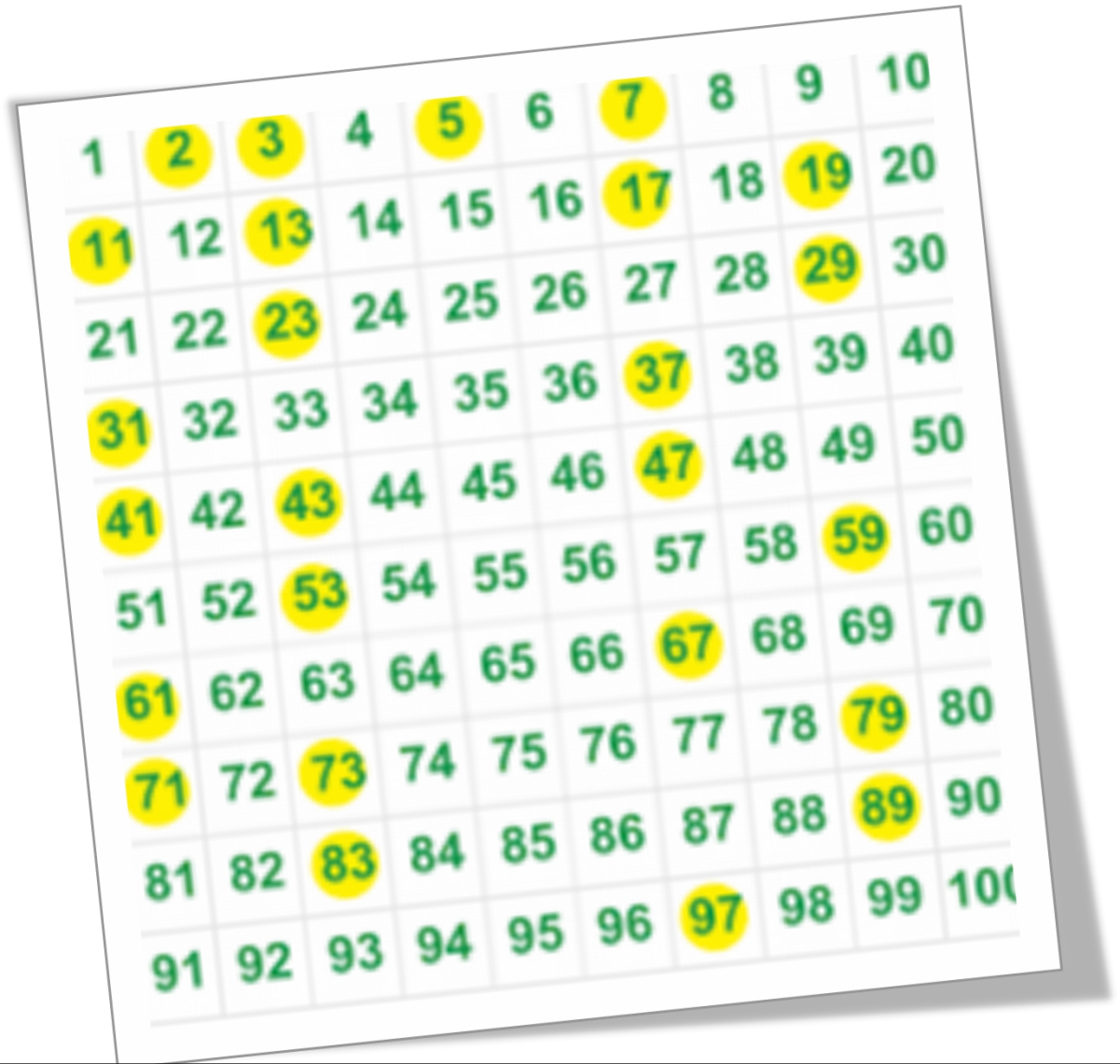
Let’s revise

Prime Number & Composite Numbers



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CO-PRIME NUMBERS

- Those numbers which do not have a common factor between them except 1 are called co-prime numbers.

- Example: factors of 16 are : 1,2,4,8,16
  Factors of 25 are: 1,5, 25

  - The only common factor these two numbers is 1

  - So 16 and 25 are co-prime numbers.

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CO-PRIME NUMBERS

- Two prime numbers are always co-prime
- Example: 5 & 11 , 13 & 23 etc.
- Two consecutive numbers are always co-prime as they will not have any common factor other than 1

Example: factors of 20 → 1, 2, 4, 5, 10,20
Factors of 21 → 1, 3, 7, 21

- Common factor is 1
- Other Example: 4 & 5, 34 & 35 etc.

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TWIN PRIME NUMBERS

- Twin prime numbers are two **consecutive prime numbers** whose difference is **2**

Examples:

- **3 & 5**
- **11 & 13**
- **17 & 19 etc.**

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PROPERTIES OF FACTORS

- 1 is a factor of every number.
- Every number is a factor of itself.
- Every number is a factor of 0
- A factor of a number is either less than or equal to the number.

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PROPERTIES OF MULTIPLES

- Every number is a multiple of 1
- Every number is a multiple of itself.
- 0 is a multiple of every number.
- Every [non-zero] multiple of a whole number is either greater then or equal to that number.

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Example : Find the factors of 48

Solution:

Method-1

$1 \times 48 = 48$

$2 \times 24 = 48$

$3 \times 16 = 48$

$4 \times 12 = 48$

$6 \times 8 = 48$

Method-2

$48 \div 1 = 48$

$48 \div 2 = 24$

$48 \div 3 = 16$

$48 \div 4 = 12$

$48 \div 6 = 8$

So, the factors of 48 are 1, 2, 3, 4, 6, 8, 12, 16, 24 and 48.

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EXERCISE 8 [A]

4. LIST THE FACTORS OF THE FOLLOWING

a. 48 1 2 3 4 6 8 12 16 24 48

b. 63 1 3 7 9 21 63

c. 84 1 2 3 4 6 7 12 14 21 28 42 84

d. 108 1 2 3 4 6 9 12 18 27 36 54 108

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EXERCISE 8 [A]

4. LIST THE FACTORS OF THE FOLLOWING

e. 32 1 2 4 8 16 32

f. 169 1 13 169

g. 343 1 7 49 343

h. 150 1 2 3 5 6 10 15 25 30 50 75 150

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LEARNING OUTCOME :

Sudents are able

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- **To understand the concept of co-prime, twin prime numbers.**
- **To understand the properties of Factors and multiples.**

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