

**CLASS: 5**

**SUBJECT: MATHEMATICS (Assignment 9)**

**Do the problems given below in the Math copy. (Answers are provided at the end)**

**PRIME NUMBERS**

A prime number is a number which is completely divisible by itself and 1 only. No other number can divide a prime number completely (*remainder = 0*). Hence a prime number only has two factors 1 and the number itself.

Examples of Prime Numbers are 2,3,5,7,11,13,17,19,23,29, etc

Number	Factors
2	1,2
7	1,7
13	1,13
29	1,29

Properties of prime numbers

- Every number greater than 1 can be divided by at least one prime number  
E.g. 9 can be divided by the prime number 3.  
10 can be divided by the prime numbers 2 and 5.  
15 can be divided by the prime numbers 3 and 5.
- Every even number greater than 2 can be expressed as the sum of two prime numbers  
E.g. 8 can be expressed as 3+5  
16 can be expressed as 5+11  
24 can be expressed as 5+19
- Except 2 all other prime numbers are odd

**COMPOSITE NUMBERS**

A composite number is a number which is not prime i.e. it has more than two factors and can be divided completely by more than two numbers.

Number	Factors
4	1,2,4
10	1,2,5,10
15	1,3,5,15
20	1,2,4,5,10,20

*\*1 is neither composite nor prime as it has only one factor.*

## HCF

The highest common factor is the largest number which can divide the given numbers completely.

### TO FIND THE HIGHEST COMMON FACTOR (HCF)

**Example 1:** Find the HCF of 24 and 30

Step 1: Find the factors of each number

Factors of 24: 1,2,3,4,6,8,12,24

Factors of 30: 1,2,3,5,6,10,15,30

Step 2: List the common factors of the given numbers

Common factors: 1,2,3,6

Step 3: Choose the highest common factor

HCF=6

**Example 2:** Find the HCF of 25, 35 and 45

Factors of 25: 1,5,25

Factors of 35: 1,3,5,7,35

Factors of 45: 1,3,5,9,15,45

Common factors: 5

HCF=5

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### Questions

- List the prime numbers between 20 and 40 in ascending order.
- List the composite numbers between 1 and 20.
- Express the following as the sum of two prime numbers.  
e.g.  $8=3+5$   
i) 12 ii) 16 iii) 22 iv) 28 v) 30
- Find the HCF of the following using the method given above.
  - 12 and 36
  - 9,27 and 30
  - 5 and 7
  - 51 and 68
  - 27, 45 and 60

Answer key	
1.	
23,29,31,37	
2.	
4,6,8,9,10,12,14,15,16,18	
3.	
i. 5+7	ii. 3+13, 5+11
iii. 3+19, 5+17	iv. 5+23, 11+17
v. 7+23, 11+19, 13+17	
4.	
i. 12	ii. 3
iii. 1	iv. 17
v. 5	