# **Finding HCF by Prime Factorisation**

#### A. Choose the correct answer:

1. What is the HCF of 12 and 18 using prime factorisation?

	a) 3	b) 6	
	c) 9	d) 12	
2.	Prime factorisation of 16 is		
	a) 2 × 4 × 2	b) 4 × 4	
	c) 2 × 2 × 2 × 2	d) 8 × 2	
3.	What is the HCF of 30 and 45?		
	a) 5	b) 10	
	c) 15	d) 20	
4.	4. HCF of 14 and 21 is		
	a) 2	b) 3	
	c) 7	d) 14	
5.	HCF means		

a) Highest Common Fraction	b) Highest Common Factor
c) Highest Common Figure	d) Highest Combined Factor

#### **B.** Write the Missing Terms to Complete the Sentences:

- 1. Prime factorisation of 24 is \_\_\_\_ × \_\_\_\_ × \_\_\_\_
- 2. Prime factorisation of 36 is \_\_\_\_ × \_\_\_\_ × \_\_\_\_
- 3. Common prime factors of 20 and 30 are \_\_\_\_\_
- 4. HCF of 10 and 25 using prime factorisation is \_\_\_\_\_
- 5. HCF is the \_\_\_\_ number that divides both numbers exactly.

## C. Mark each sentence with a True ( ✔) or False (X):

- 1. Prime factorisation helps in finding HCF
- 2. HCF of 8 and 12 is 6
- 3. Common prime factors are used to find HCF

- 4. HCF of 9 and 27 is 3
- 5.  $2 \times 2$  is the prime factorisation of 4

### **D.** Figure out the answers to these questions:

- 1. Find the HCF of 18 and 27 using prime factorisation
- 2. Write the prime factors of 16 and 20, and find their HCF
- 3. What is the HCF of 45 and 60 using the prime factor method?
- 4. Use prime factorisation to find HCF of 12 and 30
- 5. A gardener wants to plant 36 rose plants and 60 marigold plants in equal rows. What is the maximum number of rows he can form?

## E. Challenge yourself with these questions:

- 1. Find the HCF of 40 and 60 using prime factorization.
- 2. Write the prime factors of 14 and 35 and find their HCF.
- 3. Use factor trees to find the HCF of 18 and 24.
- 4. A teacher wants to divide 36 pencils and 54 erasers into equal groups. What is the greatest number of groups possible?
- 5. Write the HCF of 20 and 28 using their prime factorisations.