## **Highest Common Factor (HCF)**

Α.	. Choose the Correct Answer:		
	1. What is the HCF of 18 and 24?		
	a) 3	b) 6	
	c) 12	d) 1	
	2. The HCF of two prime numbers is always:		
	a) 0	b) 1	
	c) The product of the two numbers	d) The smaller number	
	3. Which of the following is not a common factor of 36 and 60?		
	a) 6	b) 12	
	c) 18	d) 3	
	4. The HCF of 9, 15, and 21 is:		
	a) 3	b) 1	
	c) 5	d) 9	
	5. If two numbers have HCF = 1, they are called:		
	a) Composite numbers	b) Common numbers	
	c) Twin primes	d) Co-prime numbers	
В.	Write the Missing Terms to Complete the Sentences:		

- 1. The HCF of 45 and 75 is \_\_\_\_\_\_.
- 2. Two numbers having no common factor other than 1 are called \_\_\_\_\_\_.
- 3. The greatest number that can divide 20 and 30 exactly is called their \_\_\_\_\_.
- 4. The HCF of two even numbers is always an \_\_\_\_\_ number.
- 5. The HCF of a number and 0 is always the \_\_\_\_\_.

## C. Figure out the answers to these questions:

- 1. List the common factors of 24 and 36. From this list, find the HCF.
- 2. Using the prime factorization method, find the HCF of 42 and 70.
- 3. **Word Problem:** A shopkeeper has 90 pencils and 120 pens. He wants to pack them in boxes such that each box contains the same number of pencils and pens without any left. What is the greatest number of boxes he can use?

- 4. Find the HCF of 56 and 98 using the division method.
- 5. Write any two numbers whose HCF is 7.
- 6. Can the HCF of two consecutive numbers ever be more than 1? Justify your answer with an example.
- 7. Find the HCF of 36, 60, and 72. Show steps.
- 8. Arrange the following in order of increasing HCF: (10, 15), (16, 24), (18, 27)

## D. Mark each sentence with a True ( $\checkmark$ ) or False (X):

- 1. The HCF of two numbers is always smaller than both numbers.
- 2. The HCF of 13 and 26 is 13.
- 3. Two even numbers cannot be co-prime.
- 3. The HCF of any number and 1 is always 1.
- 4. If one number is a factor of another, the HCF is the larger number.

## E. Challenge yourself with these questions:

- 1. Find the HCF of 84 and 120 using both prime factorization and division method. Are the results the same?
- 2. Ram has two ropes of length 108 cm and 135 cm. He wants to cut both into equal lengths with no leftover. What is the maximum length of each piece?
- 3. Find three numbers such that their HCF is 5 and all are less than 50.
- 4. Can two numbers have HCF = 8 and one of them be an odd number? Explain with an example or reason.
- 5. Write a real-life situation where finding the HCF is necessary.