

Name: \_\_\_\_\_

## Using Prime Factorization to find the H.C.F

Read the questions below carefully and answer to the best of your abilities.

1. Find the H.C.F. of 60 and 20 using prime factorization.

Write the prime factorization of 60:  $\_\_\_ \times \_\_\_ \times \_\_\_ \times \_\_\_$

Write the prime factorization of 20:  $\_\_\_ \times \_\_\_ \times \_\_\_$

H.C.F. of 60 and 20 =  $\_\_\_ \times \_\_\_ \times \_\_\_ = \_\_\_\_\_$

2. Find the H.C.F. of 56 and 84 using prime factorization.

Write the prime factorization of 56:  $\_\_\_ \times \_\_\_ \times \_\_\_ \times \_\_\_$

Write the prime factorization of 84:  $\_\_\_ \times \_\_\_ \times \_\_\_ \times \_\_\_$

H.C.F. of 56 and 84 =  $\_\_\_ \times \_\_\_ \times \_\_\_ = \_\_\_\_\_$

3. Find the H.C.F. of 12, 16 and 24 using prime factorization.

Write the prime factorization of 12:  $\_\_\_ \times \_\_\_ \times \_\_\_$

Write the prime factorization of 16:  $\_\_\_ \times \_\_\_ \times \_\_\_ \times \_\_\_$

Write the prime factorization of 24:  $\_\_\_ \times \_\_\_ \times \_\_\_ \times \_\_\_$

H.C.F. of 12, 16 and 24 =  $\_\_\_ \times \_\_\_ = \_\_\_\_\_$

4. Find the H.C.F. of 6, 9 and 18 using prime factorization.

Write the prime factorization of 6:  $\_\_\_ \times \_\_\_$

Write the prime factorization of 9:  $\_\_\_ \times \_\_\_$

Write the prime factorization of 18:  $\_\_\_ \times \_\_\_ \times \_\_\_$

H.C.F. of 6, 9 and 18 =  $\_\_\_\_\_$

5. Find the H.C.F. of 45, 65, 80 and 90 using prime factorization.

Write the prime factorization of 45:  $\_\_\_ \times \_\_\_ \times \_\_\_$

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Write the prime factorization of 65: \_\_\_\_ × \_\_\_\_

Write the prime factorization of 80: \_\_\_\_ × \_\_\_\_ × \_\_\_\_ × \_\_\_\_ × \_\_\_\_

Write the prime factorization of 90: \_\_\_\_ × \_\_\_\_ × \_\_\_\_ × \_\_\_\_

H.C.F. of 45, 65, 80 and 90 = \_\_\_\_