# Guide to:
## Prime factors HCF and LCM

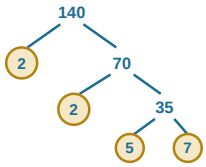
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**Explanation:**

To express a number as a **product of its prime factors**, use a factor tree to split it until every branch ends at a prime number (**2, 3, 5, 7, 11, 13…**), then write the primes multiplied together in **index form** (e.g. $2^3 \times 3 \times 5$).

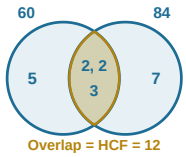
To find the **HCF** and **LCM** of two numbers, put their prime factors into a **Venn diagram**: multiply the primes in the **intersection (overlap)** to get the **HCF**, and multiply **all primes in both circles** to get the **LCM**.

**Example 1:** Write **140** as a product of its prime factors in index form.




140 = **2** × 70
70 = **2** × 35
35 = **5** × **7**
**$2^2 \times 5 \times 7$**

**Example 2:** Given **$60 = 2^2 \times 3 \times 5$** and **$84 = 2^2 \times 3 \times 7$**, find the **HCF** and **LCM**.




**HCF** = 2×2×3 = **12**
**LCM** = 12×5×7
= **420**

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