Relationship between HCF and LCM

For two given natural numbers,
(One number) × (Other number) = (Their HCF) × (Their LM)
This is true only when HCF is a factor of LCM or $(HCF)^2$ is a factor of product of two numbers.

Thus, $HCF = \frac{\text{(One number)} \times \text{(Other number)}}{\text{(Their LCM)}}$

Also, $LCM = \frac{\text{(One number)} \times \text{(Other number)}}{\text{(Their HCF)}}$

Let us understand with some examples:

Example: If the LCM of 77 and 99 is 693, then find HCF.

Solution: LCM × HCF = One number × Other number

Or $693 \times HCF = 77 \times 99$ or $HCF = \frac{77 \times 99}{693} = 11$

Hence, the required HCF is 11.

Example: The product of two numbers is 2160 and their HCF is 12. Find their LCM.

Solution: LCM × HCF = One number × Other number

Or $LCM \times 12 = 2160$ or $LCM = \frac{2160}{12} = 180$

Hence, the required LCM is 180.