Prime Factorisation - HCFs and LCMs

Prime Numbers A prime number is an integer which is divisible only by 1 and itself. By convention, 1 is not considered prime Low Primes 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47

Prime Factorisation



 $60 = 2 \times 2 \times 3 \times 5$ $60 = 2^{2} \times 3 \times 5$

Ex2 84 284 242

84=2×2×3×7

Find the Highest Common Factor HCF of 60 and 84 $60 = (2) \times (2) \times (3) \times 5$ $84 = (2) \times (2) \times (3) \times 7$

$HCF = Z \times Z \times 3 = 12$

Find the Lowest Common Multiple LCM of 60 and 84

$$60 = 2 \times 2 \times 3 \times 5$$

$$84 = 2 \times 2 \times 3 \times 7$$

LCM has all the factors of both numbers

$$LCM = 2 \times 2 \times 3 \times 5 \times 7 = 420$$

Ex3 Find the prime factorisations of 56 and 140 Find their HCF and their LCM

256	2/140
228	2 70
2/14	2 32
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	56 = 2×2×7
	$140 = 2 \times 2 \times 5 \times 51$
HCF	= 2x2x7 = 28
Lcm	= 2×2×2×7×5 = 280

 $E \times 4$ 65 and 26 S | 65 2 | 2613 | 13 13 | 13 $65 = 5 \times 13$ $26 = 2 \times 13$ HCF = 13 $LCTI = 5 \times 13 \times 2 = 130$