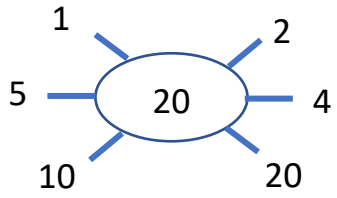
Y7L U13 Prime Factor Decomposition: Knowledge Organiser

The product of numbers is the answer when you multiply the numbers together

The factors of an integer are integers that multiply to make the number.

The multiples of an integer are the "times table" of the integer

The Factors of 20 are 1, 20, 2, 10, 4, 5



The multiples of 4 are 4, 8, 12, 16, 20, 24, 28, …

The multiples of are 6 are 6, 12, 18, 24, 30…

The **LCM** of 4 and 6 is 12

The factors of 16 are 1 , 2, 4, 8, 16

The factors of 28 are 1, 2, 4, 7, 14, 28

The HCF of 16 and 28 is 4

A prime number has EXACTLY 2 factors, one and the number itself.

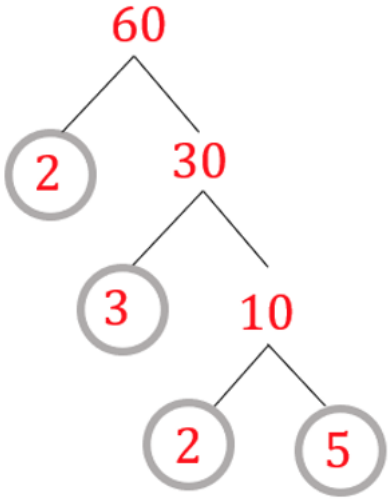
The first 9 prime numbers are

2, 3, 5, 7, 11, 13, 17, 19, 23

Prime Factor decomposition and index notation for prime factorisation

Write the following numbers as the product of their prime factors.

a) 60



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

$60 = 2^2 \times 3 \times 5$ in index form

A compound integer is a number that can be written as the product of prime factors.

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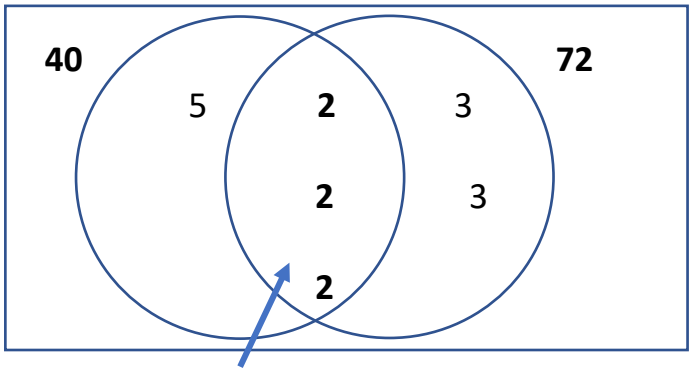
Find the HCF from a Venn Diagram

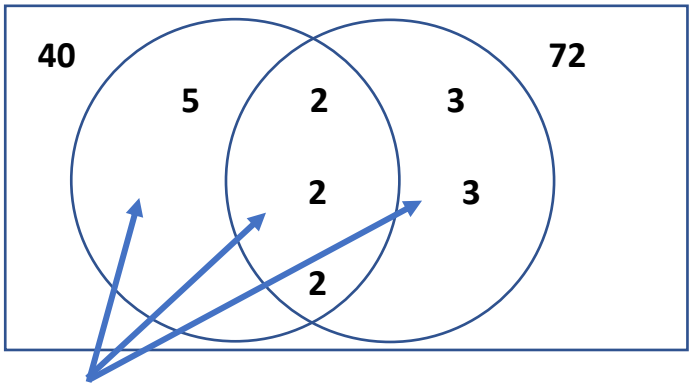
Find the HCF of 40 and 72 from the following Venn diagram.



HCF = 2 × 2 × 2 = 8

Find the LCM from a Venn Diagram

Find the LCM of 40 and 72 from the following Venn diagram.



LCM = 2 × 2 × 2 × 3 × 3 × 5 = 360

Any Other Notes

Key learning	Sparx
Identify factors and multiples	M823
Recognise primes numbers	M322
Find HCF	M698
Find LCM	M227
Undertake Prime factor decomposition	M108
Use index notation for prime factorisation	M108
Find the HCF from a Venn Diagram	M698
Find the LCM from a Venn Diagram	M227