Y7H U3 Factors and Multiples. Knowledge Organiser

Prime numbers … have exactly 2 factors, 1 and itself e.g. 2, 3, 5, 7, 11, 13, 17, 19 …

The **product** is … multiplying numbers
e.g. the product of 4 and 6 is 24

Find HCF using factor pairs of numbers

Write down **all** the common **factors** of 48 and 60

Factors of 48: 1, 2, 3, 4, 6, 8, 12, 16, 24, 48

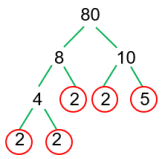
Factors of 60: 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30, 60

Common factors of 48 and 60 are 1, 2, 3, 4, 6, and 12

Write down the **highest common factor** of 48 and 60 12

Use a factor tree to identify the prime factors

Write 80 as the **product of its prime factors**



80 = 2 × 2 × 2 × 2 × 5

Identify non-prime factors from a prime factor tree

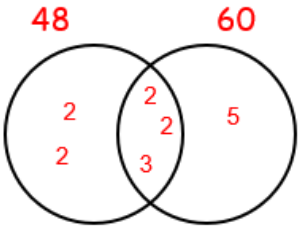
Use your factor tree to write down all the non prime factors of 80

1, 4, 8, 10, 20, 40, 80

Construct and use Venn diagrams to show common multiples

Draw a Venn diagram to work out the **lowest common multiple** of 48 and 60

48 = 2 x 2 x 2 x 2 x 3 60 = 2 x 2 x 3 x 5



LCM (multiply all numbers in Venn diagram) = 2 x 2 x 2 x 2 x 3
= 240

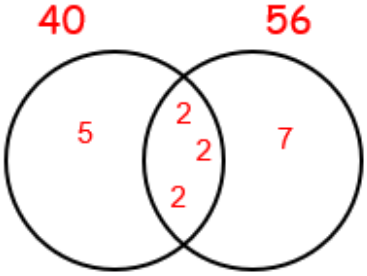
Work out two different common multiples of 48 and 60 480, 720 … (multiples of 240)

Hegarty	
HCF by listing	
Multiples and LCM	31
Prime factors tree	29, 30
Venn diagrams LCM	35
Venn diagrams HCF	32

Identify HCF from prime factor trees

Draw a Venn diagram to work out the **highest common factor** of 40 and 56

40 = 2 x 2 x 2 x 5 56 = 2 x 2 x 2 x 7



HCF (multiply the numbers in the intersection) = 2 x 2 x 2
= 8