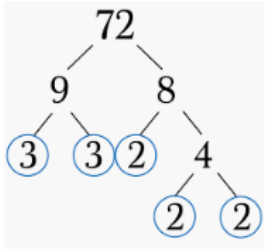
Some Key points to learn

1. Factor	The factors of a number are any numbers that divide into it exactly. This includes 1 and the number itself. For example, the factors of 6 are 1, 2, 3 and 6.
2. Multiple	The multiples of a number are all the numbers that it will divide into. This includes the number itself. For example, the multiples of 2 are 2, 4, 6, 8, 10, 12, 14, 16…
3. Prime factor tree	To find the prime factors of a number make a tree as below where each pair multiply to make the number above. Stop when you get a prime number and circle it.  $72 = 2^3 \times 3^2$
4. HCF LCM from a Venn diagram	Draw the prime factor trees for both HCF multiply numbers in the middle section 7x2 =14 LCM multiply all numbers 2x7x2x3=84 

Some Key points to learn

5. Prime Numbers	A number that only has two factors - itself and 1. For example 2, 3, 5, 7 and 11 are prime.
8. Equivalent Fractions	Equivalent fractions are fractions that look different but show exactly the same amount. You can make equivalent fractions by multiplying or dividing the numerator and denominator by the same number.
9. Mixed Numbers	Mixed numbers are used when you need to count whole things AND parts of things at the same time.
10. Improper Fractions	Improper fractions are when the numerator is bigger than the denominator
11. Percentage increase and decrease non calculator	Example If you increase a £20 train ticket by 5%, what is the new price of the ticket? 10% of £20 =2 5% of £20 =1 Therefore, the new price of the ticket is £20 + £1 = £21
12. Fraction to decimal to percentage	To turn a fraction to a decimal divide the numerator by the denominator. To convert a decimal to a % multiply by 100. To convert a percentage to a fraction put the % over 100 and simplify if you can.

Castle Manor Academy Year 8 Maths Autumn Term 1 Knowledge Organiser

Content Autumn 1

Within this unit, students will learn to:

- Find the factors and multiples of a number
- Find prime numbers
- Find the prime factors of a number
- Determine highest common factor by prime factorisation
- Determine the lowest common multiple by prime factorisation
- Use equivalent fractions
- Add and subtract fractions with like denominators
- Add and subtract fractions with unlike denominators
- Add and subtract mixed numbers and improper fractions
- Calculate % of an amount
- Convert between Fractions decimals and percentages

Useful links

Hegarty clips
Factors of a number Hegarty clip: 27
Highest common factor (HCF): 31 & 32
Multiples: 33
Lowest common multiple (LCM): 35
Equivalent fractions Hegarty clip: 59
Mixed numbers and improper fractions: 63 & 64
Add or subtract fractions: 65 & 66

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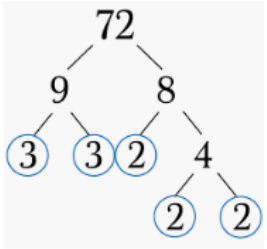
3. Prime factor tree	To find the prime factors of a number make a tree as below where each pair multiply to make the number above. Stop when you get a prime number and circle it.  $72 = 2^3 \times 3^2$
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