Some Key Points To Learn

1. Vocabulary

The **multiples** of a number are the values in that numbers times table E.g. the multiples of 5 are 5,10, 15 , 20,25,30,35,and so on. There are an infinite amount of multiples.

A **factor** is an integer that will divide exactly into another number.
E.g. 8 is a factor of 24 because 8 will divide into 24 exactly 3 times with no remainder.

A **common multiple** is a number that is a shared multiple of two or more numbers.
E.g. 12 is a common multiple of both 3 and 4.

The **Lowest Common Multiple (LCM)** is found by listing the multiples of each number and circling any common multiples. The lowest one is the LCM**.**

The **Highest Common Factor (HCF)** is a factor that is a shared by two or more numbers. It is found by listing the factors of each number. The highest one is the HCF.

A **square number** is the product of a number multiplied by itself.

A **cube number** is the product of a number multiplied by itself 3 times.

Addition is **commutative** this means it can be done in any order.

Some Key Points To Learn

2. Place Value

Recognise place value models of whole numbers

Ten Thousands	Thousands	Hundreds	Tens	Ones

3. Place Value with Decimals

Tens	Ones	Tenths	Hundredths
	0	4	6

4. Read and write numbers

Be able to spell the numbers from zero to one hundred and also the words thousand and million

5. Order of Operations

When calculations involve multiple operations, they must be performed in a specific order.
First complete the calculations in **brackets**
Then do **indices or roots**
Next multiply and divide in order from left to right
Finally, add and subtract in **order** from left to right

Example:
$5 \times (3 + 4) - 2 \times 8$
$= 5 \times 7 - 2 \times 8$
$= 35 - 16$
$= 19$

Castle Manor Academy
Year 7 Maths - Autumn 1
Knowledge Organiser

Content for Autumn Term 1

Within this unit, students will learn to:
•Understand the value of different place value columns in base 10 number systems
• Have an awareness of different numerical systems and their representation.
• Develop an understanding of commutativity of multiplication, associativity and distributivity
• Make use of and generalise the commutative, associative and distributive properties
• Develop number sense and efficient calculation strategies
• Understand the terms factor and multiple
• Recognise and define prime, square and cube numbers
• Use the definitions of factors and multiples to find common factors and common multiples
• Express an integer as a product of its factors
• Understand the equal priority of addition with subtraction and multiplication with division in written calculations
• Understand that operations of equal priority can be evaluated in any order
• Understand that written calculations follow rules of 'syntax' determining the order of operations
• Form written calculations, function machines and worded descriptions correctly embedding the order of operations
• Form and identify equivalent calculations based on distributivity, commutativity and the order of operations
• Form and interpret expressions involving variables correctly embedding the order of operations.

Useful links

www.hegartymaths.com
Clip numbers 13, 27, 31, 33, 34

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