

# Year 7 - Number (1)

# Definitions / Key terms

## Place Value HM: 13-16

Thousands	Hundreds	Tens	Units	Tenths 0.01	Hundredths 0.01	Thousandths 0.001
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**Multiplying**

X 10    digits move LEFT 1 space  
X 100    digits move LEFT 2 spaces  
X 1000    digits move LEFT 3 spaces

**Dividing**

+ 10    digits move RIGHT 1 space  
+ 100    digits move RIGHT 2 spaces  
+ 1000    digits move RIGHT 3 spaces

## Associative Law HM: 8

**addition**

$$(a + b) + c = a + (b + c)$$

$(4 + 2) + 6$  gives the same total as  $4 + (2 + 6)$

**EXAMPLE:**  
 $(4 + 2) + 6 = 6 + 6 = 12$   
 $4 + (2 + 6) = 4 + 8 = 12$

no matter how the numbers are grouped, the answer will always be the same

**multiplication**

$$(a \times b) \times c = a \times (b \times c)$$

$(2 \times 3) \times 4$  gives the same product as  $2 \times (3 \times 4)$

**EXAMPLE:**  
 $(2 \times 3) \times 4 = 6 \times 4 = 24$   
 $2 \times (3 \times 4) = 2 \times 12 = 24$

## Commutative Law HM: 7

**addition**

$$a + b = b + a$$

$6 + 2 = 8$  and  $2 + 6 = 8$

**multiplication**

$$a \times b = b \times a$$

or

$$ab = ba$$

$3 \times 2 = 6$  and  $2 \times 3 = 6$

in addition and multiplication, numbers may be added or multiplied together in any order

For subtraction and division the order is most important and must not be changed as this results in different answers, e.g.  $8 - 2 = 6$  but  $2 - 8 = -6$ ,  $6 \div 3 = 2$  but  $3 \div 6 = 0.5$

## Negative Numbers HM: 37-40, 42-44

Counting negatively      Counting positively

$$\begin{matrix} + & - \\ - & + \end{matrix} \} -$$

$$\begin{matrix} + & + \\ - & - \end{matrix} \} +$$

## BIDMAS HM: 24, 44, 120, 150

**Remember, it must be used like this:**

First do any: (B) rackets

Followed by any: I ndices

Left to right do any: D ivision & M ultiplication

Lastly, left to right: A ddition & S ubtraction

Sum	To add up	Sum 4, 6, and 10 $4 + 6 + 10 = 20$
Divide ( $\div$ )	To share into equal parts	32 divided by 4 = 8
Difference	To subtract	Find the difference between 24 and 37 $37 - 24 = 13$
Product	To multiply	Find the product of 4 and 6 $4 \times 6 = 24$
Greater than	11 is greater than 6	$11 > 6$
Less than	2.5 is less than 2.6	$2.5 < 2.6$
Multiplication	To times numbers together	Multiply 3 by 8 $3 \times 8 = 24$
Addition	The sum of two or more numbers	Add 7 and 16 together $7 + 16 = 23$
Subtracting	The difference between two numbers	Subtract 8 from 45 $45 - 8 = 37$
Positive	A number that is greater than 0	E.g. 1, 2, 3, .....
Negative	A number that is less than 0	E.g. -1, -2, -3 ....
Ascending	To put numbers in order going from lowest to highest	Put 2, 5, 4, 1 in ascending order 1, 2, 4, 5
Descending	To put numbers in order from highest to lowest	Put 12, 17, 15, 21 in descending order 21, 17, 15, 12
Units	Used to show the "ones" place value.	How many ones. How many single items.
Tenths	Can be written as $1/10$ or $1/10$ th	One part in ten equal parts
Hundredths	Can be written as $1/100$ or $1/100$ th	One part in one hundred equal parts