



# Maths Challenge KS3

## Additional and Multiplication

Example of using the grid method of working out the sum of:  $37 \times 5 =$

X	30	7
5		

$$30 \times 5 = 150$$

$$150 + 35 = 185$$

$$7 \times 5 = 35$$

## Angles

Acute angles are less than  $90^\circ$

A right angle is exactly  $90^\circ$

Obtuse angles are between  $90^\circ$  &  $180^\circ$

A straight angle is exactly  $180^\circ$

Reflex angles are between  $180^\circ$  &  $360^\circ$

## Inequality

$\neq$  = not equal to.

$>$  = greater than.

$<$  = less than.

$\geq$  = greater than or equal to.

$\leq$  = less than or equal to.

## Metrics

Units of **length** include:

kilometres (*km*)

metres (*m*)

centimetres (*cm*)

millimetres (*mm*)

Units of **mass** include:

tonne (*t*)

kilogram (*kg*)

gram (*g*)

milligram (*mg*)

Units of **capacity** include:

litre (*l*)

millilitre (*ml*)

cubic centimetre (*cc*)

## Algebra

When a letter and a number are together, you multiply them.

Example:

$$5x = 10$$

$$(5 \times 2) = 10$$

$x$  must be 2

## Sequences

'Find the recurring pattern'.

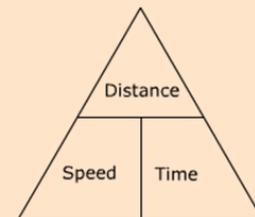
For example: **2, 6, 10, 14...** this is a number pattern that follows the rule 'add 4'.

So, the next 'term' in the sequence will be  $14 + 4 = 18$

**81, 27, 9, 3 ...** this is the number pattern that follows the rule 'divide by 3'.

So, the next 'term' in the sequence will be  $3 \div 3 = 1$

## Distances



## Common factors

Common factor is a number that can be divided into two different numbers, without leaving a remainder.

For example: the factors of 12 are 1, 2, 3, 4, 6 & 12

## Fractions

To find a fraction of something, divide it by the denominator.

## Percentages

Break the % into tens & units to help you find the % parts.

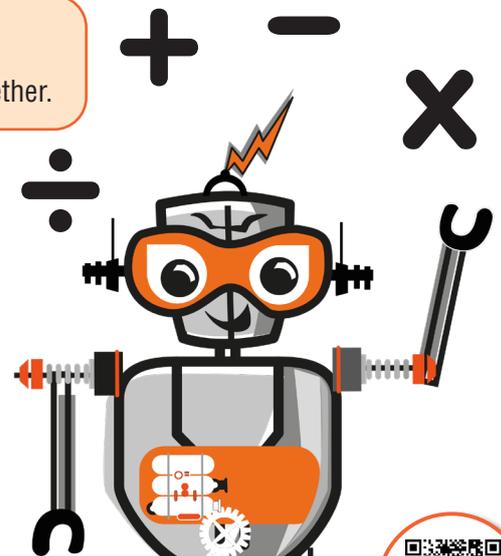
Example: to find 15% - work out 10%, then 5% & finally add the sum of them together.

## Prime numbers

These numbers are special numbers that can only be divided by themselves & 1.

## Mid point

To find the mid point of two numbers add them together & divide the sum by 2.



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