



# KNOWLEDGE ORGANISER

Year 8 – Maths – AC1

*Excellence.  
No Excuses.*

## Number 1

1	An integer is	a whole number
2	Inequality signs are	$>$ , $<$ $\leq$ , $\geq$
3	A numerator is	the top number of a fraction
4	A denominator is	the bottom number of a fraction
5	Equivalent fractions are	have the same value but use different numbers
6	To round a number	you shorten or simplify it whilst keeping it close to its original value

## Algebra 1

7	An Expression has	at least one letter, an operation and no equal sign
8	Simplifying	is replacing a <b>mathematical</b> expression by an equivalent one, that is simpler (usually shorter)
9	A term is	a single number or variable, or numbers and variables multiplied together.
10	Substitute means	to replace a letter by a number
11	Expand means	getting rid of brackets by multiplying
12	An equation contains	at least one letter, an equal sign and can be solved
13	Coefficient is	the number in front of a letter
14	Factorise means	putting brackets back in by taking out HCF
15	A formula contains	at least two letters and an equal sign

## Statistics 1

16	Mode is	the most frequent data value
17	Median is	then middle number when values arranged in order
18	Mean is	adding up all the values and dividing by how many values there are
19	Range is	Biggest value – smallest value
20	Discrete data is	data that takes exact values
21	Continuous data is	data that comes from a measurement





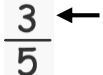
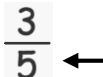
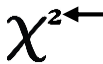


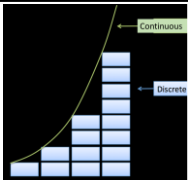
## 2D, 3D Shapes and Measurements

20	Acute angles are	less than $90^\circ$
21	Obtuse angles are	greater than $90^\circ$ but less than $180^\circ$
22	Reflex angles are	greater than $180^\circ$ but less than $360^\circ$
23	Right angles are	exactly $90^\circ$
24	Parallel lines are	lines that if continued would never meet
25	Perpendicular Lines are	lines that meet at a right angle
26	Symmetry objects are	identical either side of a line of symmetry or reflection line
27	Rotational symmetry is	how many times an object looks identical when rotated through $360^\circ$



# VOCABULARY

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Word	Definition	Synonyms	Antonyms	Etymology
<b>Integer</b> 	An integer is a whole number that can be positive, negative or zero.	<ul style="list-style-type: none"> <li>Digit</li> <li>Number</li> <li>Whole number</li> </ul>	<ul style="list-style-type: none"> <li>Part</li> <li>Decimal</li> <li>Fragment</li> </ul>	1570's From the Latin word ' <i>Integer</i> ' meaning intact, whole or complete.
<b>Calculate</b> 	To determine the amount or number of something mathematically.	<ul style="list-style-type: none"> <li>Compute</li> <li>Determine</li> <li>Work out</li> </ul>	<ul style="list-style-type: none"> <li>Estimate</li> <li>Guess</li> <li>Miscalculate</li> </ul>	1560's Latin <i>Calcularre</i> - 'to reckon or compute'
<b>Inequality</b> 	A mathematical sentence in which the left side does not equal the right side.	<ul style="list-style-type: none"> <li>Imbalance</li> <li>Inequity</li> <li>Disproportion</li> </ul>	<ul style="list-style-type: none"> <li>Balance</li> <li>Equality</li> </ul>	Early 15 <sup>th</sup> Century originating from the Latin word ' <i>Inequalitas</i> ' meaning unlike.
<b>Product</b> 	The result of multiplying two or more numbers together.	<ul style="list-style-type: none"> <li>Multiply</li> <li>Times</li> </ul>	<ul style="list-style-type: none"> <li>Decrease</li> <li>Divide</li> </ul>	From the Medieval Latin word ' <i>Productum</i> ' meaning something produced.
<b>Numerator</b> 	The number on the top of a fraction.	<ul style="list-style-type: none"> <li>Figure</li> <li>Dividend</li> </ul>	<ul style="list-style-type: none"> <li>Denominator</li> </ul>	Originating in Latin ' <i>Numerus</i> ' meaning counter number.
<b>Denominator</b> 	The number on the bottom of fraction.	<ul style="list-style-type: none"> <li>Total</li> <li>Sum</li> </ul>	<ul style="list-style-type: none"> <li>Numerator</li> </ul>	Derived from the Latin word ' <i>Denomino</i> ' meaning to name.
<b>Squared</b> 	To multiply a number, term or expression by itself.	<ul style="list-style-type: none"> <li>Multiplied</li> <li>Increase</li> </ul>	<ul style="list-style-type: none"> <li>Square root</li> </ul>	Originating from old Latin ' <i>Quadra</i> ' meaning square.
<b>Vertex</b> 	A corner point or a point where lines meet.	<ul style="list-style-type: none"> <li>Peak</li> <li>Tip</li> </ul>	<ul style="list-style-type: none"> <li>Base</li> <li>Edge</li> </ul>	1560's Latin ' <i>Vertex</i> ' meaning the highest point or the turning point.
<b>Edge</b> 	A line segment showing a boundary, often referred to as a side.	<ul style="list-style-type: none"> <li>Border</li> <li>Boundary</li> <li>Margin</li> </ul>	<ul style="list-style-type: none"> <li>Interior</li> <li>Middle</li> <li>Centre</li> </ul>	Sourced from old English routes used to describe the sharpened edge of a blade.
<b>Discrete</b>	Discrete values are limited eg shoe sizes, favourite colours	<ul style="list-style-type: none"> <li>Disconnected</li> <li>Distinct</li> <li>Detached</li> </ul>	<ul style="list-style-type: none"> <li>Continuous</li> <li>Connected</li> <li>Attached</li> </ul>	late 14c., from Old French <i>discret</i> , <i>discre</i> , and directly from Latin <i>discretus</i> "separated;" Separate, distinct from others.
<b>Continuous</b> 	Characterized by continuity, not affected by disconnection or interruption. Continuous measurements are defined as values whose measurement can be improved with more accurate measuring equipment	<ul style="list-style-type: none"> <li>Connected</li> <li>Attached</li> <li>Unending</li> </ul>	<ul style="list-style-type: none"> <li>Discrete</li> <li>Disconnected</li> <li>Distinct</li> </ul>	1640s, from French <i>continueus</i> or directly from Latin <i>continuus</i> "joining, connecting with something; following one after another"