



KNOWLEDGE ORGANISER

Year 9 – 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	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
7	Estimate means	to find a solution that is close to the actual answer by rounding to 1 significant figure

Algebra 1

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

Statistics 1

18	Mode is	the most frequent data value
19	Median is	the middle number when values are in order
20	Mean is	adding up all the values and dividing by how many values there are
21	Range is	Biggest value – smallest value
22	Discrete data is	data that takes exact values
23	Continuous data is	data that comes from a measurement
24	Interval	all the numbers between two given numbers
25	Outliers	A value that "lies outside" (is much smaller or larger than) most of the other values in a set of data.
26	Conclusion	is a statement arrived at by applying a set of logical rules

2D, 3D Shapes and Measurements

27	Acute angles are	less than 90°
28	Obtuse angles are	greater than 90° but less than 180°
29	Reflex angles are	greater than 180° but less than 360°
30	Right angles are	exactly 90°
31	Parallel lines are	lines that if continued would never meet
32	Perpendicular Lines are	lines that meet at a right angle
33	Symmetry objects are	identical either side of a line of symmetry or reflection line
34	Rotational symmetry is	how many times an object looks identical when rotated through 360°
35	Compass points	The directions on the magnetic compass



VOCABULARY

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Word	Definition	Synonyms	Antonyms	Etymology
Estimate \approx	To form an idea of the cost, size, value etc. of something, but without calculating it exactly	<ul style="list-style-type: none"> • Guess • Assessment • Reckoning 	<ul style="list-style-type: none"> • Fact • Truth 	from Latin <i>aestimatus</i> "to determine the value of"
Approximation \approx	A number, calculation, or position that is close to a correct number, time, or position, but is not exact.	<ul style="list-style-type: none"> • Guess • Estimate • conjecture 	<ul style="list-style-type: none"> • Difference • Dissimilarity • Unlikeness 	From the Latin ' <i>approximo</i> ' meaning to draw near to
Expression $4x + 8$	Numbers, symbols and operators (such as + and x) grouped together that show the value of something.	• *****	• *****	**non related to the maths terminology**
Equation $4x+8=28$	An equation says that two things are equal.	<ul style="list-style-type: none"> • Balancing • Equivalence • likeness 	• *****	From the Latin ' <i>aequo</i> ' meaning Equal and Fair
Factorising $4x + 8 = 4(x+2)$	Finding what to multiply to get an expression.	• simplify	• Multiply out	*****
Simplify $3x + 10 + x - 2 = 4x + 8$	To simplify (or reduce) an expression means to make it as simple as possible.	<ul style="list-style-type: none"> • Clarify • Streamline • Disentangle 	<ul style="list-style-type: none"> • Complicate • Obscure • mystify 	Taken directly from the French language ' <i>simplifier</i> '
Expand $4(x+2)=4x + 8$	Expand is when we multiply to remove the brackets ()	<ul style="list-style-type: none"> • Develop • Multiply out • Elaborate 	<ul style="list-style-type: none"> • Factorise • shorten 	From the Latin ' <i>expando</i> ' meaning expand
Interval 	The set containing all real numbers or points between two given numbers or points	<ul style="list-style-type: none"> • Gap • Period • Space 	<ul style="list-style-type: none"> • Continuation • Closure 	From the Latin ' <i>inter</i> ' meaning between and ' <i>vallum</i> ' meaning wall
Outliers 	A value that "lies outside" (is much smaller or larger than) most of the other values in a set of data.	<ul style="list-style-type: none"> • Anomaly • Irregularity • Outsider 	<ul style="list-style-type: none"> • Average • Normal • Standard 	An English word made from the 16 th century transferred from the meaning ' <i>outsider</i> '
Conclusion 	A result or judgement based on reasoning, research, calculation, etc. The final part of something.	<ul style="list-style-type: none"> • Completion • Finish • Ending 	<ul style="list-style-type: none"> • Theory • Start • Concept 	From the Latin word ' <i>concludo</i> ' meaning I finish, or I shut up!