



AC1: Key Outcomes – Year 7

Curriculum: Mathematics

**Excellence.
No Excuses.**

| Section | Knowledge Code: | Outcomes: | How students will demonstrate success: |
|---------|-----------------|--|--|
| 1 | M7.1.1 | Students will be able to order positive and negative numbers | Order numbers including negatives (Consecutive and not). Decide which is larger ; -3 or 2 type questions |
| 2 | M7.1.2 | Students will be able to order decimals | Order basic decimal numbers e.g. 3.5, 4.6, 2.3 etc... Those with similar digits; 4.4, 4.04, 4.4404 etc... Understand the terms 'ascending' and 'descending'. |
| 3 | M7.1.3 | Students will be able to use inequality notation | Use $<$, $>$, \leq , \geq , $=$, to separate numbers. $5 < 7$. To answer simple inequality statements e.g. $x < 5$, 4,3,2,1,0,-1 (Including negatives $x > -5$, -4,-3,-2,-1,0,1) |
| 4 | M7.1.4 | Students will be able to add (integers and decimals) using column addition | Add any two integers remembering place value on the columns. |
| 5 | M7.1.5 | Students will be able to subtract integers and decimals | Add/Subtract two integers. E.g. $2355 - 379$ (Ensuring "borrowing occurs") |
| 6 | M7.1.6 | Students will be able to multiply integers up to 3 digits | e.g. 325×34 using long multiplication. Setting out of method needs to be clear and organised |
| 7 | M7.1.7 | Students will be able to multiply decimals | Integer by decimal, and decimal by decimal |
| 8 | M7.1.8 | Students will be able to use the bus stop method for division | Divide including remainders using bus stop method. |
| 9 | M7.1.9 | Students will be able to divide with decimals | Convert numbers to integers. E.g. $35 \div 0.07$ then use bus stop. Understand about equivalence of the calculation. Also understand simple divisions such as $\div 0.5$. |
| 10 | M7.1.10 | Students will be able to add/subtract fractions (no mixed numbers) | Calculate same denominator, different denominator but not mixed numbers |
| 11 | M7.1.11 | Students will be able to multiply fractions (no mixed numbers) | Multiply an integer by a fraction, a fraction by a fraction but not mixed numbers. |
| 12 | M7.1.12 | Students will be able to divide fractions (no mixed numbers) | Divide an integer by a fraction, a fraction by a fraction and a fraction by an integer. Use of reciprocals for method of division. |
| 13 | M7.1.13 | Students will be able to add and subtract negative numbers | Understand rules and implications (why) for negative numbers. E.g. $4 + (-3) = 4 - 3 = 1$, $7 - (-4) = 7 + 4 = 11$, $-3 + (-6) = -3 - 6 = -9$. Clear steps for answering the questions, line by line for each step. |
| 14 | M7.1.14 | Students will be able to multiply and divide negative numbers | Clear steps for multiplying and dividing. E.g. $5 \times (-4) \div (-2) = (-20) \div (-2) = 10$, steps on each line. Going through the rules for multiplication/division. |
| 15 | M7.1.15 | Students will be able to round to the nearest 10, 100, 1000... | Use of line to aid where to round ; 43200 to nearest 1000, 43 200 look at next digits to decide to round up or down. |
| 16 | M7.1.16 | Students will be able to round to the nearest decimal place | Use of line to aid where to round e.g. round 4.6643 to 2d.p. 4.66 43 = 4.66 (2dp) |
| 17 | M7.1.17 | Students will be able to write expressions for algebraic situations including real life contexts for all 4 operations. | Use of a letter and a number e.g. $y + y + y = 3y$ (which is also $3 \times y$) Including $3 \times y = 3y$ and $a \times b = ab$ and three ; $3 \div y =$ $a \times a = a^2$ and $a \times b \times b = ab^2$ mixed with integers; $3 \times a \times a \times b = 3ab^2$ |



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| 18 | M7.1.18 | Students will be able to simply by collecting together like terms | Examples such as $3x + 4x + 3y + 4y$, $3x^2 + 2x + 4x^2$ ensuring misconceptions about what is 'like' are emphasised. |
| 19 | M7.1.19 | Students will be able to expand a single bracket | Single brackets including $x(x+3)$ and negative numbers $2(x-4)$, $-3(x-4)$ etc... |
| 20 | M7.1.20 | Students will be able to use index laws for multiplication (integer powers) | To use letters and numbers for the base. E.g. $3^2 \times 3^4$ and $a^3 \times a^5$ powers can go negative. |
| 21 | M7.1.21 | Students will be able to use index laws for division (integer powers) | To use letters and numbers for the base $\frac{4^4}{4^3}$, $\frac{a^6}{a^2}$ Powers can go negative |
| 22 | M7.1.22 | Students will be able to draw and interpret bar charts | To use data to draw a bar chart, the data may already be in a table or a simple tally can be used. Pupils are then to be asked specific questions such as the most, the difference between etc... |
| 23 | M7.1.23 | Students will be able to draw and interpret a pictogram | Pupils will use symbols to represent data. A key is vital and there can be part of a symbol to represent half etc... Pupils should be able to read and answer questions from a pictogram. Pupils will draw a pictogram from data, given a key and deciding their own key. |
| 24 | M7.1.24 | Students will be able to draw and interpret vertical line charts | To use data to draw a vertical line chart the data may already be in a table or a simple tally can be used. Pupils are then to be asked specific questions such as the most, the difference between etc... |
| 25 | M7.1.25 | Students will be able to draw and interpret frequency tables and two way tables | Put data from a list into a two way table and read pre populated tables. To add up tally's. |
| 26 | M7.1.26 | Students will be able to classify different types of data | Looking at a list be able to tell if it is continuous or discrete data. Be able to suggest what data is. Grouped vs ungrouped data. Primary vs secondary data. |
| 27 | M7.1.27 | Students will be able to find averages and the range from a list | Find the mode from a list. Understand no mode. Find the median from an even and odd set of data. Sorting in ascending order. Strategies for finding the middle number. Find the mean from a set of data. Understand about decimal context such as what does 2.3 children mean. State that this is not an average but a measure of spread. |
| 28 | M7.1.28 | Students will be able to compare basic data including averages | To use the 3 averages to compare two or more sets of data. To compare data that is represented from graphs and make conclusions. Such as more ice creams were sold on Wednesdays. |
| 29 | M7.1.29 | Students will be able to find lines of symmetry from 2D shapes | Draw line segments to show lines of symmetry. To use lines of symmetry to mirror a shape, diagonally and well as vertically and horizontally. |
| 30 | M7.1.30 | Students will be able to find the order of rotational symmetry in 2D shapes | To find rotational symmetry by inspection or using aids such as tracing paper. Understanding the difference between rotational and line symmetry. |



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| 31 | M7.1.31 | Students will be able to measure a line segment | Use a ruler to measure to the nearest mm. |
| 32 | M7.1.32 | Students will be able to measure an angle | Use a protractor (180°) to measure angles. To know how to measure angles that are over 180° |
| 33 | M7.1.33 | Students will be able to read and interpret a scale | To read from different types of scale making sure pupils understand about markers and how these can change from one scale to another. Be able to work out |