## MATHEMATICS

## I Can Statements

Year 7 I can Statements 2020.

| Unit |  | Statement |
| :---: | :---: | :---: |
| Number | 1A | I can work with negative numbers |
|  | 1B | I can multiply and divide numbers, using mental and standard written methods |
| Algebra | 2A | I can write and simplify algebraic expressions |
|  | 2B | I can substitute positive and negative numbers into formulae |
| Angles | 3A | I can measure and draw angles, and use some basic angle facts |
|  | 3B | I can calculate angles in increasingly complex shapes |
| Decimals | 4A | I can order and round decimals |
|  | 4B | I can use all four operations with decimals |
| Fractions \& Percentages | 5A | I can simplify and operate with fractions |
|  | 5B | I can find a simple percentage of an amount |
| Perimeter, Area \& Volume | 6A | I can find the perimeter and area of increasingly complex shapes |
|  | 6B | I can convert between different units of metric measure |
| Data | 7A | I can work out averages and use them to compare sets of data |
|  | 7B | I understand how data is presented and can use tables and charts |
| Sequences \& Graphs | 8A | I can use mathematical language to describe and generate sequences |
|  | 8B | I can plot graphs of functions |
| Ratio | 9A | I can divide a quantity into parts in a given ratio |
|  | 9B | I can solve worded number problems |
| Transformations | 10A | I can describe the line and rotational symmetry of 2D shapes |
|  | 10B | I can reflect and rotate shapes on a co-ordinate grid |

Year 8 I can Statements 2020

| Unit |  | Statement |
| :---: | :---: | :---: |
| Number | 1A | I can find and use powers and roots. |
|  | 1B | I understand factors and multiples and can find prime factors. |
| Algebra | 2A | I can simplify algebraic expressions involving brackets. |
|  | 2B | I can construct and solve two step equations. |
| Angles | 3A | I can use some more complex angle facts to find missing angles. |
|  | 3B | I understand angles inside and outside shapes. |
| Decimals | 4A | I can multiply decimals. |
|  | 4B | I can solve problems, such as ratios, using operations on decimals. |
| Proportion | 5A | I can find fractions and percentages of amounts |
|  | 5B | I can use percentages to change numbers. |
| Perimeter, Area \& Volume | 6A | I can calculate the surface area and volume of a cuboid and other prisms. |
|  | 6B | I know the names of all the parts of 2D and 3D shapes. |
| Data | 7A | I can make and use charts and graphs to interpret and compare data. |
|  | 7B | I can use scatter graphs and discuss correlation. |
| Sequences \& Graphs | 8A | I can use rules to generate sequences. |
|  | 8B | I can use algebra to describe and draw straight-line graphs |
| Probability | 9A | I can use numbers to describe probabilities, including the probability of an event not happening |
|  | 9B | I can use data to work out experimental probabilities and calculate expected outcomes. |
| Understanding Graphs | 10A | I can draw and interpret distance-time graphs |
|  | 10B | I can draw and use real-life graphs |

Year 9 I can Statements 2020

| Unit |  | Statement |
| :---: | :---: | :---: |
| Number | 1A | I can calculate with combinations of powers and roots. |
|  | 1B | I understand how to use powers of ten, as in standard form |
| Algebra | 2A | I can write and use formulas, including changing the subject. |
|  | 2B | I can simplify expressions using two brackets. |
| Constructions | 3A | I can use scales in maps and diagrams. |
|  | 3B | I can bisect a line segment and an angle. |
| Equations | 4A | I can construct and solve increasingly more complex equations |
|  | 4B | I can represent inequalities on a number line. |
| Proportion | 5A | I can solve problems using ratio. |
|  | 5B | I can solve problems using proportion |
| Area \& Units | 6A | I can find the area and circumference of a circle, or shapes involving circles |
|  | 6B | I can calculate using estimates, such as upper and lower bounds. |
| Data | 7A | I understand how to plan a survey, including collecting data |
|  | 7B | I can use tables and charts to find averages. |
| Graphs | 8A | I understand the important parts of a straight line, using $\mathrm{y}=\mathrm{mx}+\mathrm{c}$ to describe them |
|  | 8B | I can use a table of values to draw more complex graphs. |
| Probability | 9A | I can work out probabilities when two events occur, using diagrams as necessary |
|  | 9B | I can compare experimental and theoretical probabilities. |
| Similarity \& Congruence | 10A | I can solve problems involving similar and congruent shapes |
|  | 10B | I can enlarge shapes using a scale factor. |

Year 10/11 Foundation GCSE 2020

| FLOW | TOPIC | YEAR | UNIT | $\mathbf{I}$ <br> CAN | STATEMENT |
| :---: | :---: | :---: | :---: | :---: | :---: |
| N7.3 | CALCULATIONS | 10F | 1 | 1a | 1a I can add subtract multiply and divide integers, including negatives |
| N3.3 | DECIMALS | 10F | 1 | 1b | 1b I can order, add subtract multiply and divide decimals |
| N2.3 | ROUNDING | 10F | 1 | 1c | 1c I can round a number and use it to estimate an answer |
| N5.4 | POWERS | 10F | 1 | 1d | 1d I can use index numbers and their laws |
| N8.2 | FACTORS | 10F | 1 | 1 e | 1e I can find and use factors and multiples |
| N8.3 | FACTORS | 10F | 1 | 1 f | 1f I can find and use prime numbers |
| A2.4 | SIMPLIFYING ALGEBRA | 10F | 2 | 2a | 2a I can simplify an algebraic expression |
| A2.5 | SIMPLIFYING ALGEBRA | 10F | 2 | 2b | 2b I can expand and simplify brackets in algebra |
| A2. 6 | SIMPLIFYING ALGEBRA | 10F | 2 | 2C | 2c I can factorise an algebraic expression |
| A1.5 | MANIPULATING ALGEBRA | 10F | 2 | 2d | 2d I can create, substitute into and evaluate an algebraic formula |
| G1.5 | ANGLES | 10F | 3 | 3 a | 3a I can identify draw and measure angles |
| G1.6 | ANGLES | 10F | 3 | 3b | 3b I can find missing angles using angle facts, including parallel lines |
| G1.7 | ANGLES | 10F | 3 | 3c | 3c I can use angle facts in quadrilaterals and triangles |
| G1.8 | ANGLES | 10F | 4 | 4 | 4 I can find and use angles in polygons |
| R1.7 | RATIO | 10F | 5 | 5a | 5a I can write and simplify ratios |


| FLOW | TOPIC | YEAR | UNIT | $\begin{aligned} & \text { I } \\ & \text { CAN } \end{aligned}$ | STATEMENT |
| :---: | :---: | :---: | :---: | :---: | :---: |
| R1.8 | RATIO | 10F | 5 | 5b | 5b I can share in a ratio |
| R1.9 | RATIO | 10F | 5 | 5c | 5c I can use solve ratio problems |
| R1.6 | RATIO | 10F | 6 | 6a | 6a I can use proportion in recipe and 'best buy' questions |
| R2.3 | CONVERSIONS | 10F | 6 | 6b | 6b I can convert between measures and currencies |
| D2.6 | TABLES \& CHARTS | 10F | 7 | 7 a | 7 I can work with bias and sampling |
| D1.3 | AVERAGES | 10F | 7 | 7b | 7b I can find and compare averages |
| D1.4 | AVERAGES | 10F | 7 | 7 c | 7c I can find averages from diagrams |
| N9.2 | FRACTIONS | 10F | 8 | 8a | 8a I can find equivalent fractions and convert to and from mixed numbers |
| N9.3 | FRACTIONS | 10F | 8 | 8b | 8b I can add and subtract fractions |
| N9.4 | FRACTIONS | 10F | 8 | 8c | 8c I can multiply and divide fractions |
| N9.5 | FRACTIONS | 10F | 8 | 8d | 8d I can find a fraction of a quantity |
| N9.6 | FRACTIONS | 10F | 8 | 8 e | 8e I can convert between and order fractions decimals and percentages |
| N1.4 | PERCENTAGES | 10F | 8 | 8f | 8f I can find percentages and find a number as a percentage of another number |
| N1.5 | PERCENTAGES | 10F | 8 | 8 g | 8 g I can solve problems using simple and compound interest, and calculate 'reverse percentages' |
| R2.2 | CONVERSIONS | 10F | 9 | 9a | 9a I can convert between different units of metric measure |


| FLOW | TOPIC | YEAR | UNIT | $\begin{aligned} & \text { I } \\ & \text { CAN } \end{aligned}$ | STATEMENT |
| :---: | :---: | :---: | :---: | :---: | :---: |
| G4.4 | PAV | 10F | 9 | 9b | 9b I can find the perimeter and area of triangles, rectangles and trapeziums |
| G4.5 | PAV | 10F | 9 | 9c | 9c I can find areas of compound shapes |
| G4.6 | PAV | 10F | 9 | 9d | 9d I can find the surface area of a 3D shape |
| G4.7 | PAV | 10F | 9 | 9e | 9e I can find the volume of prisms |
| A1.6 | MANIPULATING ALGEBRA | 10F | 10 | 10a | 10a I can set up and solve linear equations |
| A3.2 | INEQUALITIES | 10F | 10 | 10b | 10b I can solve and show inequalities |
| A5.3 | SEQUENCES | 10F | 11 | 11a | 11a I can continue a sequence of numbers or patterns |
| A5.4 | SEQUENCES | 10F | 11 | 11b | 11b I can find and use the nth term rule of an arithmetic sequence |
| A6.6 | GRAPHS | 10F | 12 | 12a | 12a I can draw straight line graphs by completing a table of values |
| A6.7 | GRAPHS | 10F | 12 | 12b | 12b I can find and use the equation of a straight line ( $\mathrm{y}=\mathrm{mx}+\mathrm{c}$ ) |
| D2.7 | TABLES \& CHARTS | 10F | 12 | 12C | 12c I can draw and interpret real life graphs |
| N4.1 | TIME | 10F | 13 | 13a | 13a I can calculate using time ( 24 hr clock) and timetables |
| D1.5 | AVERAGES | 10F | 13 | 13b | 13b I can construct and find averages in a frequency table |
| D2.8 | TABLES \& CHARTS | 10F | 13 | 13C | 13cI can draw and interpret a pie chart |
| D2.9 | TABLES \& CHARTS | 10F | 13 | 13d | 13d I can draw and use scattergraphs |
| D3.5 | PROBABILITY | 10F | 14 | 14a | 14a I can calculate probability |


| FLOW | TOPIC | YEAR | UNIT | $\begin{aligned} & \text { I } \\ & \text { CAN } \end{aligned}$ | STATEMENT |
| :---: | :---: | :---: | :---: | :---: | :---: |
| D3.6 | PROBABILITY | 10F | 14 | 14b | 14b I can use probabilities to work out expected outcomes |
| D3.7 | PROBABILITY | 10F | 14 | 14c | 14c I can draw and use sample space diagrams |
| D3.8 | PROBABILITY | 10F | 14 | 14d | 14d I can draw and use Venn diagrams and tree diagrams |
| G8.1 | PYTHAGORAS \& TRIG | 10F | 15 | 15a | 15a I can use Pythagoras' Theorem |
| G8.2 | PYTHAGORAS \& TRIG | 10F | 15 | 15b | 15b I can use trigonometry to find lengths and angles |
| N5.5 | POWERS | 10F | 16 | 16 | 16 I can use standard form numbers |
| G5.3 | TRANSFORMATIONS | 10F | 17 | 17a | 17a I can transform a shape on a co-ordinate grid using rotation, reflection and translation |
| G5.4 | TRANSFORMATIONS | 10F | 17 | 17b | 17b I can describe a transformation that has taken place on a coordinate grid |
| G5.5 | TRANSFORMATIONS | 10F | 17 | 17c | 17c I can enlarge a shape using a scale factor and a centre of enlargement |
| A4.1 | SDT | 10F | 18 | 18a | 18a I can work out speed distance \& time, including using graphs |
| A4.2 | SDT | 10F | 18 | 18b | 18b I can solve problems involving speed and density |
| G4.8 | PAV | 10F | 19 | 19a | 19a I can find the circumference and area of circles and parts of circles |
| G4.9 | PAV | 10F | 19 | 19b | 19b I can find the surface area and volume of cylinders |
| G3.2 | SHAPES | 10F | 20 | 20 | 20 I can draw accurate plans and elevations of 3D shapes |


| FLOW | TOPIC | YEAR | UNIT | $\begin{aligned} & \hline \text { I } \\ & \text { CAN } \end{aligned}$ | STATEMENT |
| :---: | :---: | :---: | :---: | :---: | :---: |
| G6.2 | CONSTRUCTIONS | 10F | 21 | 21a | 21a I can construct perpendiculars, bisectors and triangles from given information |
| G7.1 | BEARINGS | 10F | 21 | 21b | 21b I can use map scales and bearings |
| G6.3 | CONSTRUCTIONS | 10F | 21 | 21C | 21c I can construct diagrams to solve loci problems |
| G2.3 | SIMILARITY \& CONGRUENCE | 10F | 22 | 22a | 22a I can understand and use similarity and congruence in shape problems |
| G5.6 | TRANSFORMATIONS | 10F | 22 | 22b | 22b I can use column vectors to transform a shape |
| G5.7 | TRANSFORMATIONS | 10F | 22 | 22c | 22c I can use two or more column vectors to solve problems |
| A1.7 | MANIPULATING ALGEBRA | 10F | 23 | 23a | 23a I can multiply together two algebraic expressions with brackets to create a quadratic expression |
| A2.7 | SIMPLIFYING ALGEBRA | 10F | 23 | 23b | 23b I can factorise a quadratic expression and solve a quadratic equation |
| A6.8 | GRAPHS | 10F | 23 | 23 C | 23c I can draw a quadratic and other graphs using a table of values |
| A6.9 | GRAPHS | 10F | 23 | 23d | 23d I can identify roots, intercepts and turning points on a quadratic graph |
| A1.9 | MANIPULATING ALGEBRA | 10F | 24 | 24a | 24a I can write and solve simultaneous equations algebraically |
| A1.8 | MANIPULATING ALGEBRA | 10F | 24 | 24b | 24b I can change the subject of a formula |

## Year 10/11 Higher GCSE 2020

| FLOW | TOPIC | YEAR | UNIT | I CAN | STATEMENT |
| :--- | :--- | :--- | :--- | :--- | :--- |
| N2.4 | ROUNDING | 10 H | 1 | 1 a | 1a I can round to <br> decimal places and <br> significant figures |
| N5.6 | POWERS | 10 H | 1 | 1 b | 1b I can use index <br> numbers and their <br> laws |
| N8.4 | FACTORS | N5.7 | POWERS | 10 H | 1 |
| N5.8 | POWERS | 10 H | 1 | 1c I can work with <br> factors and multiples |  |
| D2.11 | TABLES \& CHARTS | 10 H | 5 | 5 c | 5c I can draw and use <br> pie charts, bar charts |
| A1.10 | MANIPULATING <br> ALGEBRA | 10 H | 2 | 2 a | 1d I can use standard <br> form numbers |
| D1.6 | AVERAG can set up and |  |  |  |  |
| surds |  |  |  |  |  |$|$| AVERAGES |
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| FLOW | TOPIC | YEAR | UNIT | I CAN | STATEMENT |
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|  |  |  |  |  | and frequency polygons |
| D2.12 | TABLES \& CHARTS | 10 H | 5 | 5d | 5d I can draw and use scattergraphs |
| N9.7 | FRACTIONS | 10 H | 6 | 6a | 6a I can calculate using fractions, reciprocals and recurring decimals |
| N1.6 | PERCENTAGES | 10 H | 6 | 6b | 6b I can calculate with percentages, using a multiplier when necessary |
| N1.7 | PERCENTAGES | 10 H | 6 | 6c | 6c I can solve problems using simple and compound interest |
| N1.8 | PERCENTAGES | 10 H | 6 | 6d | 6d I can calculate 'reverse percentages' |
| G4.10 | PAV | 10 H | 7 | 7 a | 7a I can calculate areas of triangles, trapezia and compound shapes with a variety of metric measures |
| G4.11 | PAV | 10 H | 7 | 7b | 7 b I can find the circumference and area of circles and parts of circles |
| G4. 12 | PAV | 10 H | 8 | 8a | 8a I can calculate the surface area and volume of prisms, including cylinders |
| G4. 13 | PAV | 10 H | 8 | 8b | 8b I can calculate surface area and volume of further 3D shapes |
| A5. 5 | SEQUENCES | 10 H | 9 | 9a | 9a I can find and use the nth term rule of an arithmetic sequence |
| A5. 6 | SEQUENCES | 10 H | 9 | 9b | 9b I can find and use the nth term of a quadratic sequence |


| FLOW | TOPIC | YEAR | UNIT | I CAN | STATEMENT |
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| A6.10 | GRAPHS | 10 H | 10 | 10 a | 10a I can find and <br> use the equation of a <br> straight line (y = mx <br> + c) |
| A6.11 | GRAPHS | TOH | 10 | 10 b | 10b I can find the <br> equation of parallel <br> and perpendicular <br> lines |
| A3.3 | INEQUALITIES | 10 H | 11 | 11 a | 11a I can solve and <br> show inequalities |
| A3.4 | INEQUALITIES | 10 H | 11 | 11 b | 11 b I can show <br> inequalities as <br> regions on a graph |
| D3.12 | PROBABILITY | 10 H | 15 | 15 d | 15d I can draw and <br> use Venn diagrams |
| D2.5 | ROUNDING | TABLES \& CHARTS | 10 H | 12 | 12 |
| D2.13 | TABLES \& CHARTS | 10 H | 13 | 13 a | 12 I can work with <br> bias and sampling |
| D3.10 | PROBABILITY | 10 H | 15 | 15 b |  |
| D3.9 I can draw and |  |  |  |  |  |
| use cumulative |  |  |  |  |  |
| frequency diagrams |  |  |  |  |  |
| and box plots |  |  |  |  |  |


| FLOW | TOPIC | YEAR | UNIT | I CAN | STATEMENT |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | and use them in calculations |
| A6.12 | GRAPHS | 10 H | 17 | 17a | 17a I can draw a quadratic graph using a table of values |
| A2.8 | SIMPLIFYING ALGEBRA | 10 H | 17 | 17b | 17b I can factorise a quadratic expression and solve a quadratic equation |
| A2.9 | SIMPLIFYING ALGEBRA | 10 H | 17 | 17C | 17c I can factorise and solve by completing the square |
| A6.13 | GRAPHS | 10 H | 17 | 17d | 17d I can identify roots, intercepts and turning points on a quadratic graph and sketch it |
| A6.14 | GRAPHS | 10 H | 18 | 18a | 18a I can solve simultaneous equations graphically |
| A1.13 | MANIPULATING ALGEBRA | 10 H | 18 | 18b | 18b I can write and solve simultaneous equations algebraically |
| A1.14 | MANIPULATING ALGEBRA | 10 H | 18 | 18c | 18c I can solve a linear/quadratic simultaneous equation |
| G5.8 | TRANSFORMATIONS | 10 H | 19 | 19a | 19a I can transform a shape on a coordinate grid using rotation, reflection and translation |
| G5.9 | TRANSFORMATIONS | 10 H | 19 | 19b | 19b I can transform a shape on a coordinate grid using combined transformations |
| G5.10 | TRANSFORMATIONS | 10 H | 19 | 19C | 19c I can describe a transformation that has taken place on a co-ordinate grid |


| FLOW | TOPIC | YEAR | UNIT | I CAN | STATEMENT |
| :---: | :---: | :---: | :---: | :---: | :---: |
| G5.11 | TRANSFORMATIONS | 10 H | 19 | 19d | 19d I can enlarge a shape using a scale factor and a centre of enlargement |
| R1.11 | RATIO | 10 H | 20 | 20a | 20a I can calculate unknown quantities using direct and inverse proportion |
| R1.12 | RATIO | 10 H | 20 | 20b | 20b I can solve algebraic, graphical and worded proportion problems |
| A4.3 | SDT | 10H | 20 | 20c | 20c I can solve problems about density |
| G3.3 | SHAPES | 10 H | 21 | 21a | 21a I can draw accurate plans and elevations of 3D shapes |
| G7.2 | BEARINGS | 10H | 21 | 21b | 21b I can use map scales and bearings |
| G6.4 | CONSTRUCTIONS | 10 H | 21 | 21c | 21c I can construct diagrams to solve loci problems |
| A6.15 | GRAPHS | 10 H | 22 | 22a | 22a I can recognise and draw other graphs, such as reciprocal, cubic, exponential and circles |
| A1.16 | MANIPULATING ALGEBRA | 10 H | 23 | 23a | 23a I can solve problems involving algebraic fractions |
| A2.10 | SIMPLIFYING ALGEBRA | 10 H | 23 | 23C | 23c I can multiply and simplify three algebraic expressions with brackets |
| A1.17 | MANIPULATING ALGEBRA | 10 H | 23 | 23d | 23d I can work with functions |
| A1.18 | MANIPULATING ALGEBRA | 10 H | 23 | 23d | 23d I can use algebra to prove statements are true or false |


| FLOW | TOPIC | YEAR | UNIT | I CAN | STATEMENT |
| :---: | :---: | :---: | :---: | :---: | :---: |
| G1.10 | ANGLES | 10H | 24 | 24a | 24a I can use circle theorems |
| G1.11 | ANGLES | 10 H | 24 | 24b | 24b I can solve problems using circle theorems |
| A6.17 | GRAPHS | 10H | 25 | 25a | 25a I can recognise and draw the graphs of trigonometric functions |
| A6.18 | GRAPHS | 10H | 26 | 26a | 26a I can transform linear, quadratic and cubic graphs |
| A4. 6 | SDT | 10H | 26 | 26b | 26b I can estimate areas and gradients of curves |
| G2.4 | SIMILARITY \& CONGRUENCE | 10H | 27 | 27a | 27a I can use similarity to find missing lengths, areas and volumes |
| G8.5 | PYTHAGORAS \& TRIG | 10H | 28 | 28a | 28a I can use <br> trigonometry and <br> Pythagoras in 3D |
| G8.6 | PYTHAGORAS \& TRIG | 10H | 28 | 28b | 28b I can use the sine and cosine rules |
| G8.7 | PYTHAGORAS \& TRIG | 10H | 28 | 28c | 28c I can use the formula for the area of any triangle |
| G5.12 | TRANSFORMATIONS | 10 H | 29 | 29a | 29a I can solve problems using vector geometry, including using ratio |
| G2.5 | SIMILARITY \& CONGRUENCE | 10H | 29 | 29b | 29b I can use angle facts, similarity and congruence in geometric proofs |

