YEAR 7 INDEPENDENT WORK TASKS

Homework tasks will be set on a weekly basis. Students will have a numeracy homework booklet with weekly tasks that are to be completed. Additionally, students will be set homework assignments through MathsWatch to be completed. All students have their own log-in to MathWatch. Students will be provided with a homework textbook that accompanies the textbook used in lessons. Some students will also be provided with a booklet of UK Maths Challenge problems to support them preparing for the UK Maths Challenge in April.

We encourage all students enrol with Parallel and complete the weekly challenges set through this site. Link: https://parallel.org.uk/. When registering using your school email address, use the school code **s5k0s2**

Students can undertake additional independent tasks to support developing their understanding and retrieval of the mathematics covered in lessons. Students can do this in several ways:

- Watching Mathswatch clips of the concepts covered in lessons. Link: http://vle.mathswatch.co.uk/vle
- Completing Mathswatch interactive questions on the topics covered. Link: http://vle.mathswatch.co.uk/vle
- Completing homework exercises for the topics covered for the homework book provided. A copy of Maths Frameworking homework book has been provided.
- Completing Corbett Maths textbook exercise or practice questions. Link: https://corbettmaths.com/contents/

Below are the topics covered each term and details of the MathsWatch clip and relevant homework exercise.

There are further tasks towards the end of this document to support enrichment with mathematics that explore and extend the taught curriculum.

TERM 1

Algebra

Topic	Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference

7.1 Expressions and substitution	To use algebra to write simple expressions and recognise equivalent expressions	Exercise 7A	A4	Algebra: expressions – forming
7.1 Expressions and substitution	To substitute numbers into expressions to work out their value	Exercise 7A	A10	Algebra: substitution
7.2 Simplifying expressions	To learn how to simplify expressions	Exercise 7B	A6, A7a and A7b	Algebra: collecting like terms
7.3 Using formulae	To use formulae	Exercise 7C	A3	Algebra: substitution
7.4 Writing formulae	To write formulae	Exercise 7D	A7a and A7b	Algebra: expressions – forming

Sequences

Topic	Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
2.1 Function machines	To use function machines to generate inputs and outputs	Exercise 2A	N26	Function Machines
2.1 Function machines	To use given inputs and outputs to work out a function	Exercise 2A	N26	Function Machines
2.2 Sequences and rules	To recognise, describe and generate sequences that follow a simple rule	Exercise 2B	A11a	Sequences: describing rules
2.3 Working out missing terms	To work out missing terms in a sequence	Exercise 2C	A11b	Sequences: missing terms
2.4 Working out the nth term	To work out the nth term	Exercise 2D	A11c	Sequences: nth term
2.4 Working out the nth term	To use the nth term to work out any term in a sequence	Exercise 2D	A11c	Sequences: nth term

2.5 Other sequences	To know and understand the square and triangular number sequences, the Fibonacci sequence and Pascal's triangle	Exercise 2E and 2F	A22	Sequences: Fibonacci

Fractions

Topic	Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
8.1 Equivalent fractions	To find equivalent fractions	Exercise 8A	N23b	Fractions: equivalent
8.1 Equivalent fractions	To write fractions in their simplest form	Exercise 8A	N23c	Fractions: simplifying
8.2 Comparing fractions	To compare and order two fractions	Exercise 8B	N34	Fractions: ordering
8.3 Adding and subtracting fractions	To add and subtract fractions with different denominators	Exercise 8C	N36	Fractions: addition diff denominators
8.4 Mixed numbers and improper fractions	To convert mixed numbers to improper fractions	Exercise 8D	N35	Fractions: mixed number to improper
8.4 Mixed numbers and improper fractions	To convert improper fractions to mixed numbers	Exercise 8D	N35	Fractions: improper to mixed number
8.5 Calculations with mixed numbers	To add and subtract simple mixed numbers with different denominators	Exercise 8E	N41	Fractions: addition diff denominators

TERM 2

Equations

Topic	Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
14.1 Finding unknown numbers	To find missing numbers in simple calculations	Exercise 14A	A12	Equations: solving

14.2 Solving equations	To understand what an equation is	Exercise 14B	A17	Equations: forming
14.2 Solving equations	To solve equations involving one operation	Exercise 14B	A12	Equations: solving
14.3 Solving more complex equations	To solve equations involving two operations	Exercise 14C	A17	Equations: solving
14.4 Setting up and solving equations	To use algebra to set up and solve equations	Exercise 14D	A17	Equations: forming

Properties number, including factors and multiples

Topic	Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
1.1 Multiplying and dividing negative numbers	To carry out multiplications and divisions involving negative numbers		N19b	Negatives: multiplication
1.2 Factors and highest common factor	To understand and use highest common factors		N31a	Number: common factors/HCF
1.3 Multiples and lowest common multiple	To understand and use lowest common multiples		N31b	Number: common multiples/LCM
1.4 Powers and roots	To understand and use powers and roots		N25	Number: square root
1.5 Prime factors	To find the prime numbers of an integer		N30a and N30b	Number: product of primes

Perimeter, area and volume

Topic	Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
3.1 Perimeter and area of rectangles	To use a simple formula to work out the perimeter of a rectangle	Exercise 3A	G8b	Perimeter

3.1 Perimeter and area of rectangles	To use a simple formula to work out the area of a rectangle	Exercise 3A	G20a	Perimeter
3.2 Perimeter and area of compound shapes	To work out the perimeter and the area of a compound shape	Exercise 3B	G24	Area: L – shape
3.3 Areas of some other 2D shapes	To work out the area of a triangle	Exercise 3C	G20c	Area: rectangle
3.3 Areas of some other 2D shapes	To work out the area of a parallelogram	Exercise 3C	G20b	Area: parallelogram
3.3 Areas of some other 2D shapes	To work out the area of a trapezium	Exercise 3C	G20d	Area: trapezium
3.4 Surface area and volume of cubes and cuboids	To work out the surface area of cubes and cuboids	Exercise 3D	G21b	Surface area: cuboid
3.4 Surface area and volume of cubes and cuboids	To work out the volume of cubes and cuboids	Exercise 3D	G21a	Volume: cube/cuboid

TERM 3

Statistics

Topic	Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
6.1 Mode, median and range	To understand and calculate the mode, median and range of data	Exercise 6A	S6	Averages: median
6.2 The mean	To understand and calculate the mean average of data	Exercise 6B	S7	Averages: mean
6.3 Statistical diagrams	To be able to read and interpret different statistical diagrams	Exercise 6C	S1a and S2a	Graphs: bar charts (reading)
6.4 Collecting and using discrete data	To create and use a tally chart	Exercise 6D	S3	Tally charts
6.5 Collecting and using continuous data	To understand continuous data and use grouped frequency	Exercise 6E	S4	Types of data: discrete & continuous
6.6 Data collection	To develop greater understanding of data collection	Exercise 6F	S5	Data handling cycle

Angles

Topic	Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
9.1 Measuring and drawing angles	To use a protractor to measure an angle	Exercise 9A	G10a and G10b	Angles: measuring
9.1 Measuring and drawing angles	To use a protractor to draw an angle	Exercise 9A	G10c	Angles: drawing
9.2 Calculating angles	To understand the properties of parallel, intersecting and perpendicular lines	Exercise 9B	G18	Angles: types of
9.2 Calculating angles	To calculate angles around a point	Exercise 9B	G13	Angles: full circle (at a point)
9.2 Calculating angles	To calculate angles on a straight line	Exercise 9B	G13	Angles: straight line
9.2 Calculating angles	To calculate opposite angles	Exercise 9B	G13	Angles: vertically opposites
9.3 Corresponding and alternate angles	To calculate angles in parallel lines	Exercise 9C	G18	Angles: parallel lines
9.4 Angles in a triangle	To know that the sum of the angles in a triangle is 180°	Exercise 9D	G17	Angles: triangle
9.5 Angles in a quadrilateral	To know that the sum of the angles in a quadrilateral is 360°	Exercise 9E	G19	Angles: quadrilaterals
9.6 Properties of triangles and quadrilaterals	To understand and use the properties of triangles	Exercise 9F	G16	Triangles: types of
9.6 Properties of triangles and quadrilaterals	To understand and use the properties of quadrilaterals	Exercise 9F	G14	2D shapes: quadrilaterals

TERM 4

Coordinates and graphs

Topic	Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
10.1 Coordinates in four quadrants	To understand and use coordinates to locate points in all four quadrants	Exercise 10A	G1b	Coordinates
10.2 Graphs from relationships	To draw a graph for a simple relationship	Exercise 10B	A14a	Linear graphs: drawing (xy table)
10.3 Predicting graphs from relationships	To understand the connection between pairs of coordinates and the relationship shown in an equation and a graph	Exercise 10C	A14a	Linear graphs: drawing (xy table)
10.4 Graphs of the form y = ax	To recognise and draw line graphs with fixed values of x and y	Exercise 10D	A5	Linear graphs: x=a graphs
10.4 Graphs of the form y = ax	To recognise and draw graphs of y = x and y = –x	Exercise 10D	A14a	
10.5 Graphs of the form x + y = a	To recognise and draw graphs of the form x + y = a	Exercise 10E	A14c	
10.6 Graphs from the real world	To learn how graphs can be used to represent real-life situations	Exercise 10F	A21a	Graphs: distance-time graphs
10.6 Graphs from the real world	To draw and use real-life graphs	Exercise 10F	A21b	Graphs: distance-time graphs

Ratio

Topic	Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
17.1 Introduction to ratios	To use ratio notation	Exercise 17A	R1a	
17.1 Introduction to ratios	To use ratio to compare quantities	Exercise 17A	R1b	Ratio: simplifying
17.2 Simplifying ratios	To write a ratio as simply as possible with whole numbers	Exercise 17B	R5a	Ratio: simplifying
17.2 Simplifying ratios	To write ratios in the form 1 : x where x could be a decimal.	Exercise 17B	R6	Ratio: expressing as 1:n
17.3 Ratios and sharing	To use ratios to find totals or missing quantities	Exercise 17C	R6	Ratio: given one value
17.3 Ratios and sharing	To write ratios to compare more than two items	Exercise 17C	R6	Ratio: sharing the total
17.4 Solving problems	To understand the connections between fractions and ratios	Exercise 17D		Ratio: express as fractions or %
17.4 Solving problems	To understand how ratios can be useful in everyday life	Exercise 17D	R1a	Ratio: solving problems 1

TERM 5

Percentages

Topic	Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
11.1 Fractions, decimals and percentages	To understand the equivalence between a fraction, a decimal and a percentage	Exercise 11A	N32	FDP: key equivalents

11.1 Fractions, decimals and percentages	To understand and use percentages greater than 100%	Exercise 11A	R9a	Percentages: multipliers
11.2 Fractions of a quantity	To work out a fraction of a quantity without using a calculator	Exercise 11B	N33	Fractions: fraction of an amount
11.3 Calculating simple percentages	To work out a percentage of a quantity without using a calculator	Exercise 11C	N24b	Percentages: of an amount (non-calc)
11.4 Percentages with a calculator	To use a calculator to work out a percentage of a quantity	Exercise 11D	N39b	Percentages: of an amount (calc)
11.4 Percentages with a calculator	To know when it is appropriate to use a calculator	Exercise 11D	R9a	Percentages: of an amount (calc)
11.5 Percentage increases and decreases	To work out the result of a percentage change	Exercise 11E	R9b	Percentages: increasing\decreasing

Probability

Topic	Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
12.1 Probability scales	To learn and use the correct words about probability	Exercise 12A	P1	Probability: scale
12.2 Combined events	To use sample space diagrams to work out the probability of a combined event	Exercise 12B	P4	Probability: sample space
12.3 Experimental probability	To understand experimental probability	Exercise 12C	N2a and N2b	Probability: relative frequency
12.3 Experimental probability	To understand the difference between theoretical probability and experimental probability	Exercise 12C	P7	Probability: relative frequency

Symmetry

Topic	Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
13.1 Line symmetry and rotational symmetry	To recognise shapes that have reflective symmetry and draw their lines of symmetry	Exercise 13A	G3	Symmetry: line
13.1 Line symmetry and rotational symmetry	To recognise shapes that have rotational symmetry and find the order of rotational symmetry	Exercise 13A	G7	Symmetry: rotational
13.2 Reflections	To understand how to reflect a shape	Exercise 13B	G4a	Symmetry: line
13.2 Reflections	To use coordinates to reflect shapes in all four quadrants	Exercise 13B	G4b	Symmetry: line
13.3 Rotations	To understand how to rotate a shape	Exercise 13C	G6	Symmetry: rotational
13.4 Tessellations	To understand how to tessellate shapes	Exercise 13D		Angles: tessellations

TERM 6

Interpreting data

Topic	Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
15.1 Pie charts	To use a scaling method to draw a pie chart	Exercise 15A	S9	Graphs: pie charts (draw)
15.1 Pie charts	To read and interpret data from pie charts	Exercise 15A	S9	Graphs: pie charts (interpret)
15.2 Comparing range and averages of data	To use averages and range to compare data	Exercise 15B	S10a	Averages: mean
15.2 Comparing range and averages of data	To make sensible decisions by comparing averages and ranges of two sets of data	Exercise 15B	S10a	Averages: mean
15.3 Statistical surveys	To carry out a statistical survey	Exercise 15C		
15.3 Statistical surveys	To use charts and diagrams to interpret data and then write a report	Exercise 15C		

3D shapes

Topic	Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
16.1 Naming and drawing 3D shapes	To be familiar with the names of 3D shapes and their properties	Exercise 16A	G12a	3D shapes: names
16.1 Naming and drawing 3D shapes	To use isometric paper to draw shapes made from cubes	Exercise 16A	G12b	
16.2 Using nets to construct 3D shapes	To draw nets of 3D shapes	Exercise 16B	G13c	3D shapes: nets
16.2 Using nets to construct 3D shapes	To construct 3D shapes from nets including more complex shapes	Exercise 16B	G12a	3D shapes: nets
16.3 3D investigations	To understand the relationship between faces, edges and vertices for 3D shapes	Exercise 16C	G12a	3D shapes: vertices, edges, faces
16.3 3D investigations	To solve problems involving 3D shapes	Exercise 16C	G12a	

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TERM 1

Working with number

Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference

To carry out multiplications and divisions involving negative numbers	Exercise 1A	N19b	Negatives: multiplication
To understand and use highest common factors	Exercise 1B	N31a	Number: common factors/HCF
To understand and use lowest common multiples	Exercise 1C	N31b	Number: common multiples/LCM
To understand and use powers and roots	Exercise 1D	N25	Number: square root
To find the prime numbers of an integer	Exercise 1E	N30a and N30b	Number: product of primes

Geometry

Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
To calculate angles in parallel lines	Exercise 2A	G18	Angles: parallel lines
To know the geometric properties of quadrilaterals	Exercise 2B	G14	Angles: quadrilaterals
To understand how to translate a shape	Exercise 2C	G5	Translations: describing
To enlarge a 2D shape by a scale factor	Exercise 2D	G28	Enlargements
To construct the mid-point and the perpendicular bisector of a line	Exercise 2E	G26a	Constructions: perpendicular bisector
To construct an angle bisector	Exercise 2E	G26c	Constructions: angle bisector
To construct a perpendicular to a line from or at a given point	Exercise 2E	G26b	Constructions: perpendicular to point
To construct a right-angled triangle	Exercise 2E		Constructions: 90 degree angle

Probability

Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
To recognise mutually exclusive and exhaustive events	Exercise 3A	P3	Probability: not happening
To use a probability scale to represent a chance	Exercise 3B	P1	Probability: scale
To use sample spaces to calculate probabilities	Exercise 3C	P2b	Probability: sample space
To use relative frequency to estimate probabilities	Exercise 3C	P7	Probability: relative frequency

TERM 2

Percentages

Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
To write one quantity as a percentage of another	Exercise 4A	N39a	Percentages: expressing as
To use a multiplier to calculate a percentage change	Exercise 4B	R9b	Percentages: multipliers
To work out a change in value as a percentage increase or decrease	Exercise 4C	N39b	Percentages: increasing\decreasing

Congruent shapes

Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
To recognise congruent shapes	Exercise 5A	G31	Congruent shapes
To know the conditions for recognising congruent triangles	Exercise 5B	G31	Congruent triangles
To solve geometrical problems using congruent triangles	Exercise 5C	G31	Congruent triangles

Surface area, volume and prisms

Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
To convert metric units for area and volume	Exercise 6A	R2	Units: converting areas
To calculate the surface area of a prism	Exercise 6B	G25b	Surface area: other prisms
To calculate the volume of a prism	Exercise 6C	G25a	Volume: prism

TERM 3

Graphs

Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
To extend the range of graphs of linear equations	Exercise 7A	A14a	Linear graphs: (across one method)
To work out the gradient in a graph from a linear equation	Exercise 7B	A14b	Linear graphs: gradient of a line
To work out an equation of the form y = mx + c from its graph	Exercise 7B	A14c	Linear graphs: find equation of a line
To recognise and draw the graph from a quadratic equation	Exercise 7C	A15	Quadratic graphs: drawing
To solve a quadratic equation from a graph	Exercise 7C	A15	Quadratics: solving graphically
To draw graphs from real-life situations to illustrate the relationship between two variables	Exercise 7D	A21b	Quadratic graphs: sketching using key points

Number

Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
How to multiply and divide by negative powers of 10	Exercise 8A	N45a	Multiplication: powers of 10
To round a specific number of significant figures	Exercise 8B	N38	Rounding: significant figures

To write a large number in standard form	Exercise 8C	N45a	Standard form
To multiply with numbers in standard form	Exercise 8D	N45b	Standard form: multiplication

Interpreting graphs

Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
To interpret different charts seen in the media	Exercise 9A	S1a and S2a	Graphs: pictograms (interpret)
To draw pie charts relative to data size	Exercise 9B	S9	Graphs: pie charts (draw)
To read scatter graphs	Exercise 9C	S8	Graphs: scatter graphs (interpret)
To understand correlation	Exercise 9C	S8	Graphs: scatter graphs (correlation)
To create scatter graphs and use a line of best fit	Exercise 9D	S8	Graphs: scatter graphs (line of best fit)

TERM 4

Algebra

Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
To simplify algebraic expressions by combining like terms	Exercise 10B	A6	Algebra: collecting like terms
To remove brackets from an expression	Exercise 10C	A8	Algebra: expanding brackets
To manipulate algebraic expressions	Exercise 10D	A13b	Algebra: changing the subject
To identify algebraic expressions	Exercise 10D	A4	Algebra: expressions – forming

To write algebraic expressions involving powers	Exercise 10E		Algebra: indices

Shape and ratio

Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
To use ratio to compare lengths, areas and volumes of 2D and 3D shapes	Exercise 11A	R10	Similar shapes: area
To enlarge a 2D shape by a scale factor	Exercise 11B	R10	Enlargements: describing
To understand how to use map scales	Exercise 11C	R6	Scales and maps

Fractions and decimals

Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
To add or subtract fractions and mixed numbers	Exercise 12A	N41	Fractions: addition diff denominators
To multiply a fraction or a mixed number and an integer	Exercise 12B	N42a	Fractions: multiplication
To divide a fraction or a mixed number by an integer	Exercise 12C	N42b	Fractions: division
To divide an integer or a mixed number by a fraction	Exercise 12C	N42b	Fractions: division
To multiply with combinations of large and small numbers mentally	Exercise 12D	N28a	Multiplication: decimals
To divide combinations of large or small numbers mentally	Exercise 12E	N16	

TERM 5

Proportion

Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
To understand the meaning of direct proportion	Exercise 13A	R8	Proportion: direct
To find missing values in problems involving proportion	Exercise 13A	R8	Proportion: unitary method

To represent direct proportion graphically and algebraically	Exercise 13B	R8	Proportion: direct
To understand what inverse proportion is	Exercise 13C	R13	Proportion: inverse
To use graphical and algebraic representations of inverse proportion	Exercise 13C	R13	Proportion: inverse
To recognise direct and inverse proportion and work out missing values	Exercise 13D	R13	

Circles

Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
To know the definition of a circle and the names of its parts	Exercise 14A	G2	Circles: parts
To work out the relationship between the circumference and diameter of a circle	Exercise 14A	G22a	Circles: circumference
To calculate the circumference of a circle	Exercise 14B	G22a	Circles: circumference
To calculate the area of a circle	Exercise 14C	G22b	Circles: area

TERM 6

Equations and formulae

Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
To solve equations involving brackets	Exercise 15A	A19a	Equations: solving
To solve equations where the answers are fractions or negative numbers	Exercise 15A	A19a	Equations: involving fractions
To solve equations with the variable on both sides	Exercise 15B	A19b	Equations: letters both sides
To solve equations with brackets and fractional coefficients	Exercise 15C	A19a	Equations: involving fractions
To solve simple equations involving squares	Exercise 15C		

To change the subject of a formula	Exercise 15D	A13b	Algebra: changing the subject
To change the subject of a formula involving squares	Exercise 15D	A13b	Algebra: changing the subject advanced

Comparing data

Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
To create a grouped frequency table from raw data	Exercise 16A	S4	Graphs: bar charts (draw)
To interpret frequency diagrams	Exercise 16B	S5	Graphs: frequency polygons
To draw a frequency diagram from a grouped frequency table	Exercise 16B	S4	Graphs: frequency polygons (draw)
To be able to compare data from two sources	Exercise 16C		Graphs: bar charts (reading)
To recognise when a statistical chart may be misleading	Exercise 16D		

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TERM 1

Percentages

Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference

To understand what is meant by simple interest	Exercise 1A	111	Percentages: increasing\decreasing
To solve problems involving simple interest	Exercise 1A	111	Percentages: increasing\decreasing
To use the multiplier method to calculate the result of a percentage increase or decrease	Exercise 1B	108	Percentages: multipliers
To calculate the percentage change in a value	Exercise 1B	109	Percentages: change
Given the result of a percentage change, to calculate the original value	Exercise 1C	110	Percentages: reverse
To calculate the result of repeated percentage changes	Exercise 1D	164	Percentages: compound interest

Equations and formulae

Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
To expand brackets and simplify more complex expressions	Exercise 2A	134a	Algebra: expanding brackets
To factorise more complex expressions	Exercise 2B	94	Factorisation
To expand and factorise expressions with more than one variable	Exercise 2C	134a	Factorisation
To solve equations where the variable is in the denominator of a fraction	Exercise 2D	135	Equations: fractional advanced

Polygons

Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
To work out the sum of the interior angles of a polygon	Exercise 3A	123	Angles: polygons
To work out exterior angles of polygons	Exercise 3A	123	Angles: polygons
To calculate the interior and exterior angles of regular polygons	Exercise 3B	123	Angles: polygons
To work out which regular polygons tessellate	Exercise 3C	12a	Angles: tessellations

TERM 2

Using data

Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
To infer a correlation from two related scatter graphs	Exercise 4A	129	Graphs: scatter graphs (interpret)
To draw a line of best fit to show a correlation	Exercise 4A	129	Graphs: scatter graphs (line of best fit)
To interpret a variety of two-way tables	Exercise 4B	61	Tables: two-way tables
To estimate a mean from grouped data	Exercise 4C	130b	Averages: mean (estimated)
To draw a cumulative frequency diagram	Exercise 4D	186	Graphs: cumulative frequency (draw)
To find the interquartile range	Exercise 4D	187	Graphs: box plots-draw\interpret
To plan a statistical investigation	Exercise 4E		

Application of graphs

Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
To interpret step graphs	Exercise 5A	143	
To interpret and draw time graphs	Exercise 5B	143	Graphs: distance-time graphs
To draw exponential growth graphs	Exercise 5C	194	Types of graph: exponential

Pythagoras' theorem

Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference

To use Pythagoras' theorem in right-angled triangles	Exercise 6A	150a	Pythagoras
Using Pythagoras' theorem to solve problems	Exercise 6B	150b	Pythagoras: rectangles/isosceles tri
To use the converse of Pythagoras' theorem	Exercise 6C	150c	Pythagoras: show triangle is right angle

TERM 3

Fractions

Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
To choose an appropriate method to add or subtract mixed numbers	Exercise 7A	71a	Fractions: addition diff denominators
To multiply two fractions or mixed numbers	Exercise 7B	73	Fractions: multiplication
To divide one fraction or mixed number by another fraction or mixed number	Exercise 7C	74	Fractions: division
To add, subtract, multiply or divide fractions containing a variable	Exercise 7D	210a	Algebraic fractions: addition

Algebra

Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
To multiply out (or expand) two brackets	Exercise 8A	134b	Algebra: expanding two brackets
To multiply out three or more brackets	Exercise 8B	178	Algebra: expanding three brackets
To factorise quadratic expressions with positive coefficients	Exercise 8C	157	Factorisation: quadratics
To factorise quadratic expressions with negative coefficients	Exercise 8D	157	Factorisation: quadratics harder

To recognise and use the difference of two squares	Exercise 8E	158	Factorisation: difference of 2 squares

Decimal numbers

Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
To understand and work with both positive and negative powers of ten	Exercise 9A	131	Multiplication: powers of 10
To understand and work with standard form, using both positive and negative powers of ten	Exercise 9B	83	Standard form
To multiply numbers in standard form, using both positive and negative powers of ten	Exercise 9C	83	Standard form: multiplication
To divide numbers in standard form, using both positive and negative powers of ten	Exercise 9D	83	Standard form: division
To understand the limits of accuracy when using rounded data	Exercise 9E	155	Limits of accuracy

TERM 4

Right angled triangles

Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
To understand what trigonometric ratios are	Exercise 13A	168	Trigonometry introduction
To understand what the trigonometric ratios sine, cosine and tangent are	Exercise 13B	168	Trigonometry: Exact values
To find the angle identified from a trigonometric ratio	Exercise 13C	168	Trigonometry missing angles
To find an unknown length of a right-angled triangle given one side and an angle	Exercise 13D	168	Trigonometry missing sides

TERM 5

Solving equations

Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
To understand what trigonometric ratios are	Exercise 13A	168	Trigonometry introduction
To understand what the trigonometric ratios sine, cosine and tangent are	Exercise 13B	168	Trigonometry: Exact values
To find the angle identified from a trigonometric ratio	Exercise 13C	168	Trigonometry missing angles
To find an unknown length of a right-angled triangle given one side and an angle	Exercise 13D	168	Trigonometry missing sides

Compound units

Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
To understand and use measures of speed	Exercise 12A	142	Speed, distance and time
To understand and use density and other compound units	Exercise 12B	142	Density
To understand and use unit pricing	Exercise 12C	41	Number: best buys

TERM 6

Basic number

Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
Solve problems set in a real-life context.	1A		
Multiply a decimal number by another decimal number.	1B	66	
Divide a decimal by changing the calculation to division by an integer.	1B	67	

Round to a given number of significant figures.	1C	90	
Approximate the result before multiplying/dividing two numbers together.	1E	91	
Round a calculation, at the end of a problem, to give what is considered a sensible answer.	1E	32	
To identify multiples, factors, primes, squares, cubes and triangular numbers.	1F	28	
	1F	81	
To identify prime factors.	1G	78	
Identify the LCM and HCF of two multiples.	1H	79	
	1H	80	
Multiply and divide positive and negative numbers.	1I	68	
BIDMAS.	1J	75	

Fractions, ratio and proportion

Learning objective	Maths Frameworking exercise	Mathswatch clip reference	Corbett Maths reference
Find one quantity as a fraction of another.	2A		
Add and subtract fractions with different denominators.	2B	71	
Multiply and divide proper fractions.	2C	73	
	2C	74	
Multiply and divide mixed numbers.	2C	73	
	2C	74	
To use all four operations with fractions on a calculator.	2D		
Increase and decrease quantities by a percentage.	2E	108	
Express one quantity as a percentage of another.	2F	89	
To work out percentage change.	2F	109	

ENRICHMENT TASKS

Parallel Maths tasks - complete the weekly challenges set through the site. Link: https://parallel.org.uk/ . When registering using your school email address, use the school code s5k0s2.

Nrich Maths tasks – read the Latest Feature article or complete an Activity. Link: https://nrich.maths.org/secondary

Cipher Challenge – complete past challenges from the National Cipher Challenge. Link: https://2021.cipherchallenge.org/

Numberphile – find out more about interesting topics in mathematics. Link: https://www.youtube.com/numberphile