Learn more, remember more, apply more

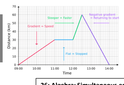
Maplefields Key Curriculum Drivers

Learning Journey Maths

Golden Concepts

- Fluency
- Cross curricular Schema
- Mastery of Basic Skills
- Problem solving
- Mathematical reasoning

Summer Term



Term 5

REVISION

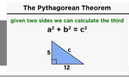
Term 6

26: Algebra: Simultaneous equations and linear inequalities
26.1 Elimination method for simultaneous equations, 26.2 Substitution method for simultaneous equations, 26.3 Balancing coefficients to solve simultaneous equations, 26.4 Using simultaneous equations to solve problems, 26.5 Linear inequalities
27: Algebra: Non-linear graphs
27.1 Distance-time graphs, 27.2 Velocity-time graphs, 27.3 Plotting quadratic graphs, 27.4 Solving quadratic equations by factorisation, 27.5 The significant points of a quadratic curve, 27.6 Cubic and reciprocal graphs

Repeat of topics identified through assessment – missed or need retrieval.
Personalised Revision for Year 11 students
June Examinations
Opportunities to complete any outstanding functional skills examinations dependent on pathways

Term 4

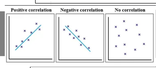
Term 3



Spring Term

23: Geometry and measures: Congruency and similarity
23.1 Congruent triangles, 23.2 Similarity
24: Probability: Combined events
24.1 Combined events, 24.2 Two-way tables, 24.3 Probability and Venn diagrams, 24.2 Tree diagrams
25: Number: Powers and standard form
25.1 Powers (indices), 25.2 Rules for multiplying and dividing powers, 25.3 Standard form
Revision and review
Mock Exams and Revision

21: Algebra: Number and sequences
21.1 Patterns in number, 21.2 Number sequences, 21.3 Finding the nth term of a linear sequence, 21.4 Special sequences, 2.5 General rules from given patterns
22: Geometry and measures: Right-angled triangles
22.2 Calculating the length of the shorter side, 22.3 Applying Pythagoras' theorem in real-life situations, 22.4 Pythagoras' theorem and isosceles triangles, 22.5 Trigonometric ratios, 22.6 Calculating lengths using trigonometry, 22.7 Calculating angles using trigonometry, 22.8 Trigonometry without a calculator, 22.9 Solving problems using trigonometry, 22.10 Trigonometry and bearings, 22.11 Trigonometry and isosceles triangles



Term 1

Term 2

Autumn Term

16: Ratio and proportion and rates of change: Percentages and compound measures:
16.1 Equivalent percentages, fractions and decimals, 16.2 Calculating a percentage of a quantity, 16.3 Increasing and decreasing quantities by a percentage, 16.4 Expressing one quantity as a percentage of another, 16.5 Compound measures
17: Ratio and proportion and rates of change: Percentages and variation
17.1 Compound interest and repeated percentage change, 17.2 Reverse percentage (working out the original value), 17.3 Direct proportion, 17.4 Inverse proportion
18: Statistics: More complex statistics
18.1 Sampling, 18.2 Pie charts, 18.3 Scatter diagrams, 18.4 Grouped data and averages

19: Geometry and measures: Constructions and loci
19.1 Constructing triangles, 19.2 Bisectors, 19.3 Defining a locus, 19.4 Loci problems
20: Geometry and measures: Curved shapes and pyramids
20.1 Sectors, 20.2 Pyramids, 20.3 Cones, 20.4 Spheres

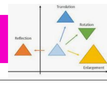
Revision and review
Mock Exams and Revision

KS4 Cycle B

Term 6

Volume of a Cylinder
$\pi r^2 h$

Term 5



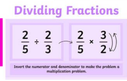
Summer Term

13: Probability: Probability and events
13.4 Experimental probability, 13.5 Expectation, 13.6 Choices and outcomes
14: Geometry and measures: Volumes and surface areas of prisms
14.1 3D shapes, 14.2 Volume and surface area of a cuboid, 14.3 Volume and surface area of a prism, 14.4 Volume and surface area of cylinders
15: Algebra: Linear equations
15.1 Solving linear equations, 15.2 Solving equations with brackets, 15.3 Solving equations with the variable on both sides

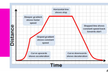
11: Geometry and measures: Perimeter and area
11.1 Rectangles, 11.2 Compound shapes, 11.3 Area of a triangle, 11.4 Area of a parallelogram, 11.5 Area of a trapezium, 11.6 Circles, 11.7 The area of a circle, 11.8 Answers in terms of π
12: Geometry and measures: Transformations
12.1 Rotational symmetry, 12.2 Translation, 12.3 Reflections, 12.4 Rotations, 12.5 Enlargements, 12.6 Using more than one transformation, 12.7 Vectors
13: Probability: Probability and events
13.1 Calculating probabilities, 13.2 Probability that an outcome will not happen, 13.3 Mutually exclusive and exhaustive outcomes

Spring Term

Dividing Fractions



Term 3



Term 4

6: Number: Approximations
6.1 Rounding whole numbers, 6.2 Rounding decimals, 6.3 Approximating calculations
7: Number: Decimals and fractions
7.1 Calculating with decimals, 7.2 Fractions and reciprocals, 7.3 Writing one quantity as a fraction of another, 7.4 Adding and subtracting fractions, 7.5 Multiplying and dividing fractions, 7.6 Fractions on a calculator
8: Algebra: Linear graphs
8.1 Graphs and equations, 8.2 Drawing linear graphs by finding points, 8.3 Gradient of a line, 8.4 y = mx + c, 8.5 Finding the equation of a line from its graph, 8.6 The equation of a parallel line

8: Algebra: Linear graphs
8.7 Real-life uses of graphs, 8.8 Solving simultaneous equations using graphs
9: Algebra: Expressions and formulae
9.1 Basic algebra, 9.2 Substitution, 9.3 Expanding brackets, 9.4 Factorisation, 9.5 Quadratic expansion, 9.6 Quadratic factorisation, 9.7 Changing the subject of a formula
10: Ratio and proportion and rates of change: Ratio, speed and proportion
10.1 Ratio, 10.2 Speed, distance and time, 10.3 Direct proportion problems, 10.4 Best buys

Summer Term

Term 2

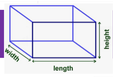
13 has **only two factors – itself and 1**. So it is a prime number.

Term 1

3: Statistics: Charts, tables and averages
3.3 Line graphs, 3.4 Statistical averages
4: Geometry and measures: Angles
4.1 Angles facts, 4.2 Triangles, 4.3 Angles in a polygon, 4.4 Regular polygons, 4.5 Angles in parallel lines, 4.6 Special quadrilaterals, 4.7 Bearings
5: Number: Number properties
5.1 Multiples of whole numbers, 5.2 Factors of whole numbers, 5.3 Prime numbers, 5.4 Prime factors, LCM and HCF, 5.5 Square numbers, 5.6 Square roots, 5.7 Basic calculations on a calculator

1: Number: Basic Number
1.1 Place value and ordering numbers, 1.2 Order of operations and BIDMAS, 1.3 The four rules
2: Geometry and measures: Measures and scale drawings
2.1 Systems of measurement, 2.2 Conversion factors, 2.3 Scale drawings, 2.4 Nets, 2.5 Using an isometric grid
3: Statistics: Charts, tables and averages
3.1 Frequency tables, 3.2 Statistical diagrams

Autumn Term



Term 5

Term 6

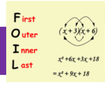
KS4 Cycle A

Summer Term

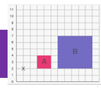
Surface area and volume of 3D shapes
Surface areas of cubes and cuboids, volume formulae for cubes and cuboids, volumes of triangular prisms
Solving equations graphically
Graphs from equations in the form y =mx + c, problems involving straight-line graphs, solving simple quadratic equations by drawing graphs, problems involving quadratic graphs

Distance, speed and time
Distance, speed, time.
Similar triangles
Similar triangles, a summary of similar triangles, using triangles to solve problems
Revision and GCSE preparation
Identification of pathway (Entry level, Functional skills or GCSE).

Term 4



Term 3

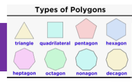


Algebra
Expanding brackets, factorising algebraic expressions, expand and simplify
Decimal numbers
Multiplication of decimals, powers of 10, rounding suitably, dividing decimals, solving problems

Enlargements
Scale factors and enlargements, the centre of enlargement, enlargement on grids
Fractions
Adding and subtracting fractions, multiplying fractions, dividing fractions

Spring Term

Term 1



Term 2

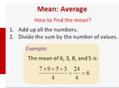
Autumn Term

Percentages
Simple interest, percentage increase and decrease, calculating the original value, using percentages
Equations and formulae
Multiplying out brackets, factorising algebraic expressions, equations with brackets, equations with fractions, formulae

Polygons
Polygons, angles in polygons, interior angles of regular polygons
Using data
Scatter graphs and correlation, interpreting graphs and diagrams, two-way tables, comparing two or more sets of data, statistical investigations
Circles
The formula for the circumference of a circle, the formula for the area of a circle, mixed problems involving circles

Y8/9 Cycle B

Term 6



Term 5

Summer Term

Equations and formulae
Equations, equations with brackets, more complex equations, substituting into formulae
Comparing data
Frequency tables, the mean, drawing frequency diagrams, comparing data, which average to use?

Fractions and decimals
Adding and subtracting fractions, multiplying fractions and integers, dividing with integers and fractions, multiplications with powers of ten, division with powers of ten
Proportion
Direct proportion, graphs and direct proportion, inverse proportion, the difference between direct and inverse proportion
Circles
The circle and its parts, circumference of a circle, a formula to work out the approximate circumference of a circle.

Term 3

CONGRUENT SHAPES
Same SHAPE Same SIZE

Term 4

Graphs
Rules with coordinates, graphs from rules, graphs from simple quadratic equations, distance and time graphs.
Simplifying numbers
Powers of 10, large numbers and rounding, significant figures, estimating answers, problem solving with decimals.

Interpreting data
Information from charts, reading pie charts, creating pie charts, scatter graphs
Algebra
Algebraic notation, like terms, expanding brackets, using algebra, using powers
Congruence and scaling
Congruent shapes, shape and ratio, scale diagrams

Spring Term

Term 2

Term 1

Autumn Term

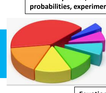
Y8/9 Cycle A

Percentages
Calculating percentages, calculating the result of a percentage change, calculating a percentage change
Sequences
The Fibonacci sequence, algebra and function machines, the nth term of a sequence
Area
Area of a rectangle, area of compound shapes, area of a triangle, area of a parallelogram

Working with numbers
Adding and subtracting with negative numbers, multiplying and dividing negative numbers, factors and HCF, multiples and LCM, Squares, cubes and roots, prime factors.
Geometry
Parallel and perpendicular lines, angles in triangles and quadrilaterals, translations, rotations.
Probability
Probability scales, collecting data for a frequency table, mixed events, using a sample space to calculate probabilities, experimental probability.

Term 5

Term 6



Summer Term

Percentages
Fractions and percentages, fractions of a quality, percentages of a quantity, percentages with a calculator, percentage increase and decrease.
Probability
Probability words, probability scales, experimental probability.
Symmetry
Line Symmetry, rotational symmetry, reflections, tessellations

Equations
Finding unknown numbers, solving equations, solving more complex equations, setting up and solving equations.
Interpreting data
Pie charts, comparing data by median and range, statistical surveys
3D shapes
3D shapes and nets, using nets to construct 3D shapes, 3D investigations
Ratio
Introduction to ratios, simplifying ratios, ratios and sharing, ratios and fractions

Term 4

Term 3

$2\frac{3}{4} = \frac{11}{4}$

Angles
Using a compass to give directions, measuring angles, drawing angles, calculating angles, properties of angles and triangles.
Coordinates and graphs
Coordinates, from mappings to graphs, naming graphs, graphs in the real world.

Algebra
Expressions and substitution, simplifying expressions, using formulae, writing formulae.
Fractions
Equivalent fractions, comparing fractions, adding and subtracting fractions, mixed numbers and improper fractions, calculations with mixed numbers.

Spring Term

Y7

Autumn Term

Term 1

Term 2

$1 \times 1 = 1$
$2 \times 2 = 4$
$3 \times 3 = 9$
$4 \times 4 = 16$
$5 \times 5 = 25$

Using numbers
The calendar, 12 hour and 24 hour clocks, managing money, positive and negative numbers, adding and subtracting negative numbers.
Sequences
Function machines, sequences and rules, finding terms in patterns, square numbers and triangular numbers
Perimeter, Area and Volume
Length and Perimeter, area, area and perimeter of rectangles

Decimal numbers
Multiplying and dividing by 10, 100 and 1000, ordering decimals, estimates, adding and subtracting decimals, multiplying and dividing decimals.
Working with numbers
Square numbers, rounding order of operations, long and short multiplication and division, calculations and measurements.
Statistics
Mode median and range, reading data from tables and charts, using a tally chart, using data, grouped frequency, data collection.