

Meridian Maths Curriculum

Year 9

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Topic 1: Indices

Key Idea 1.1: Laws of Indices

- 1.1.a: Multiplication Law.
- 1.1.b: Division Law.
- 1.1.c: Power Law.

Key Idea 1.2: Standard Index Form

- 1.2.a: Writing numbers in Standard Form.
- 1.2.b: Calculating with Standard Form

Key Idea 1.3: Products of Prime Factors

- 1.3.a: HCF and LCM using products of prime factors.

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Independent Learning Codes

Skill	Code
Index rules with positive indices	U235
Index rules with negative indices	U694
Using standard form with positive indices	U330
Using standard form with negative indices	U534
Multiplying and dividing numbers in standard form	U264
Adding and subtracting numbers in standard form	U290
Standard form with a calculator	U161

Key Idea 2.1: Parts of a circle

2.1.: Parts of a circle and definitions

Key Idea 2.2: Circumference

2.2.a: Relationship between diameter and circumference

2.2.b: Calculating the circumference

2.2.c: Working backwards and perimeter

Key Idea 2.3: Area

2.3.a: Deriving the area

2.3.b: Calculating the area

2.3.c: Area of part circles (semis and quarters)

2.3.d: Area of composite shapes and shaded areas including circles

Key Idea 2.4: Surface area

2.4: Surface area of a cylinder

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Independent Learning Codes

Skill	Code
Identifying parts of circles	U767
Finding the circumference of circles	U604
Finding the area of circles	U950
Finding the surface area of cylinders	U464

Topic 3: Proportion

Key Idea 3.1: Exploring Multiplicative and Proportional Relationships

- 3.1a: Exploring multiplicative relationships.
- 3.1b: Exploring proportional relationships.

Key Idea 3.2: Direct Proportion

- 3.2a: Exploring directly proportional relationships.
- 3.2.b: Applications of directly proportional relationships

Key Idea 3.3: Inverse Proportion

- 3.3a: Exploring inversely proportional relationships.
- 3.3b: Determining between direct and inverse relationships.

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Independent Learning Codes

Skill	Code
Solving direct proportion word problems	U721
Solving inverse proportion word problems	U357
Currency conversion	U610

Key Idea 4.1: Pictograms

- 4.1a: Pictograms.
- 4.1b: Drawing Bar Charts.
- 4.1c : Interpreting Bar Charts.

Key Idea 4.2: Bar Charts

- 4.2a: Bar charts
- 4.2b: Comparative bar charts
- 4.2c: Composite bar charts

Key Idea 4.2: Bar Charts

- 4.2a: Drawing pie charts
- 4.2b: Interpreting pie charts

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Independent Learning Codes

Skill	Code
Drawing and interpreting tally charts	U653
Drawing and interpreting pictograms	U506
Drawing bar charts	U363
Interpreting bar charts	U557
Drawing pie charts	U508
Interpreting pie charts	U172

Topic 5: Volume

Key Idea 5.1: Volume of cubes and cuboids

Key Idea 5.2: Volume of prisms, composite and cylinders

Key Idea 5.3: Capacity

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Independent Learning Codes

Skill	Code
Finding the volume of cubes and cuboids	U786
Finding the volume of prisms	U174
Finding the volume of cylinders	U915

Key Idea 6.1: Reflection

- 6.1a: Reflection
- 6.1b: Describing Reflections

Key Idea 6.2: Rotation

- 6.2a: Rotation
- 6.2b: Describing Rotations

Key Idea 6.3: Translation

- 6.3a: Translation
- 6.3b: Describing Translations

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Independent Learning Codes

Skill	Code
Translation	U196
Reflection	U799
Rotation	U696

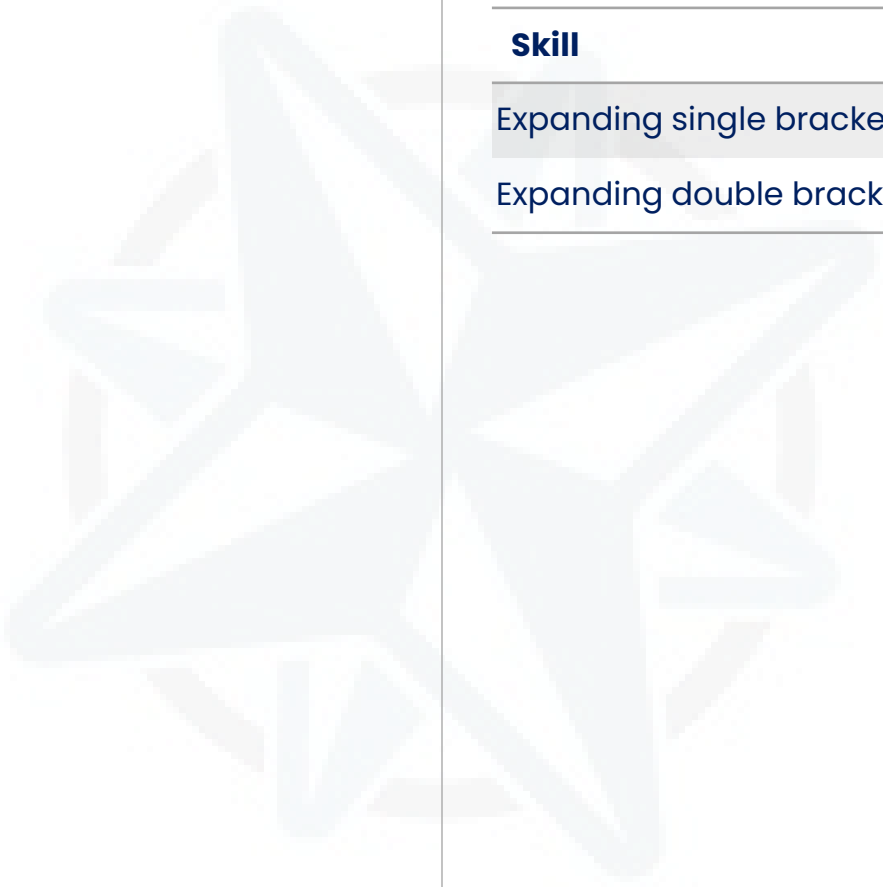
Topic 7: Expanding Double Brackets

Key Idea 7.1: Retrieval of key algebra skills

Key Idea 7.2: Product of two binomials

Key Idea 7.3: Squaring a binomial

Key Idea 7.4: Equating coefficients



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Independent Learning Codes

Skill	Code
Expanding single brackets	U179
Expanding double brackets	U768

Topic 8: Further Solving Equations

Key Idea 8.1: Solving equations with unknowns on both sides

8.1a: Retrieval: Solving linear equations with unknowns on both sides

8.1b: Solving equations with unknowns on both sides

Key Idea 8.2: Forming and solving equations

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Independent Learning Codes

Skill	Code
Solving equations with one step	U755
Solving equations with two or more steps	U325
Solving equations with the unknown on both sides	U870

Key Idea 9.1: Plotting Scatter Graphs

Key Idea 9.2: Correlation

Key Idea 9.3: Lines of Best Fit

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Independent Learning Codes

Skill	Code
Plotting scatter graphs	U199
Interpreting scatter graphs	U277

Topic 10: Angle Properties

Retrieval Content

- a) Angle facts
- b) Angles in triangles and quadrilaterals
- c) Drawing and measuring bearings
- d) Scale drawings with bearings

New Content

- a) Angles in parallel lines
- b) Interior angles in polygons
- c) Exterior angles in polygons
- d) Calculating bearings with parallel lines

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Independent Learning Codes

Skill	Code
Understanding, measuring and drawing angles	U447
Angles on a line and about a point	U390
Vertically opposite angles	U730
Angles in triangles	U628
Angles in quadrilaterals	U732
Combining angle facts	U655
Angles on parallel lines	U826
Using quadrilateral properties to find angles	U329
Angles in polygons	U427
Calculating bearings	U107

Retrieval Content:

- a) Percentages of amounts without a calculator
- b) Increasing and decreasing by a percentage
- c) Expressing an amount as a percentage

New Content

- a) Using multipliers to find a percentage of an amount
- b) Using multipliers to increase or decrease an amount by a percentage
- c) Reverse percentages (finding the original price)

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Independent Learning Codes

Skill	Code
Converting between fractions, decimals and percentages	U888
Writing numbers as percentages of other numbers	U925
Finding percentages of amounts without a calculator	U554
Finding percentages of amounts with a calculator	U349
Percentage change without a calculator	U773
Percentage change with a calculator	U671
Finding original values in percentage calculations	U286
Finding the percentage an amount has been changed by	U278

Enlargements

- a) Enlarging a shape on a grid
- b) Enlarging a shape with a centre of enlargement
- c) Enlarging a shape with a negative scale factor (Higher tier only)
- d) Describing enlargements

Similarity

- a) Multiplicative relationships
- b) Identifying similar shapes
- c) Determining missing side lengths

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Independent Learning Codes

Skill	Code
Enlargement by a positive scale factor	U519
Enlargement by a positive or negative scale factor	U134
Understanding similarity	U551
Finding unknown sides in similar shapes	U578

Congruency

- a) What it means to be congruent
- b) Congruent triangles
- c) Embedded congruent triangles (Higher tier only)

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Independent Learning Codes

Skill	Code
Understanding congruence	U790
Congruent triangles	U866

Rearranging Formulae

- a) Rearranging in one step
- b) Rearranging in two steps
- c) Rearranging where the subject appears twice (Higher tier only)

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Independent Learning Codes

Skill	Code
Changing the subjects of formulae with one step	U675
Changing the subjects of formulae with two or more steps	U181
Changing the subject when the subject appears more than once	U191

Pythagoras' Theorem

- a) Calculating the hypotenuse
- b) Calculating the length of a short side
- c) Determining if a triangle is right angled

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Independent Learning Codes

Skill	Code
Using Pythagoras' theorem in 2D	U385
Applying Pythagoras' theorem in 2D	U828

Retrieval Content

- Gradient of lines
- Plotting linear graphs
- Horizontal and vertical lines
- The y intercept

New Content

- Finding the mid points of line segments
- Line segments and ratio
- Determining the gradient from two coordinates
- Writing the equation of the line in the form $y=mx+c$
- Finding the equation of a linear graph

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Independent Learning Codes

Skill	Code
Reading and plotting coordinates	U789
Calculating midpoints	U933
Solving shape problems involving coordinates	U889
Plotting straight line graphs	U741
Finding equations of straight line graphs	U315
Interpreting equations of straight line graphs	U669
Finding the equation of a straight line from its gradient and a point	U477
Finding the equation of a straight line from two points on the line	U848

Calculating from a list of numbers:

- a) Mean
- b) Median
- c) Mode
- d) Range

Calculating from a frequency table:

- a) Mean
- b) Median
- c) Mode
- d) Range

Calculating from a grouped frequency table:

- a) Mean
- b) Median
- c) Mode

Graphs

- a) Calculating averages from charts and graphs
- b) Plotting time series data
- c) Interpreting time series data

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Independent Learning Codes

Skill	Code
Calculating the range	U526
Calculating the median	U456
Finding the mode	U260
Calculating the mean	U291
Finding averages from frequency tables	U569
Finding averages from diagrams	U854
Finding averages from grouped data	U877
Choosing suitable averages and solving problems	U717

Retrieval content

- a) The probability scale
- b) Single event probability
- c) Mutually exclusive and exhaustive events
- d) Sample space diagrams

New Content

- a) Probability of independent events
- b) Construction probability tree diagrams
- c) Calculating probabilities with tree diagrams
- d) Conditional probability (Crossover and Higher tier only)

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Independent Learning Codes

Skill	Code
Using probability phrases	U803
Writing probabilities as fractions	U408
Writing probabilities as fractions, decimals and percentages	U510
Probabilities of mutually exclusive events	U683
Expected results from repeated experiments	U166
Sample space diagrams	U104
Systematic listing	U714
Tree diagrams for independent events	U558
Tree diagrams for dependent events	U729
Calculating experimental probabilities	U580
Conditional probabilities from tables	U246