



CURRICULAR · MATH

Geometry

An eighteen-month Geometry ladder of twelve six-week belts that starts with lines, angles and shapes and builds through triangles, quadrilaterals, the coordinate plane, area and volume, transformations, the Pythagorean theorem, trigonometric ratios and formal constructions.

12 belts

80 topics

Grade 10

Completes in 18 Months

○ White Belt 1

Arena 1 · 6 Weeks

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|--|--|
| 1. Line, Line Segments & Rays | 5. Angles- Introduction & Types Of Angles |
| 2. Segments - Line Segments & Congruent Segments | 6. Measuring Angles- In Degrees/Using A Protractor |
| 3. Points, Lines & Planes | 7. Review/Assessment |
| 4. Geometric Definitions, Types Of Lines | |

○ White Belt 2

Arena 1 · 6 Weeks

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|---|---|
| 1. Constructing Angles | 5. Angles Between Intersecting Lines |
| 2. Angles In Circles | 6. Parallel, Perpendicular Lines & Transversals |
| 3. Constructing Different Types Of Angles | 7. Review/Assessment |
| 4. Vertical, Complimentary & Supplementary Angles | |

● Yellow Belt 1

Arena 2 · 6 Weeks

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|---|--|
| 1. Missing Angles & Proofs with Transformations | 5. Equal Parts Of Rectangles & Circles |
| 2. Congruent Angles | 6. Partitioning Rectangles |
| 3. Shapes - Introduction | 7. Review/Assessment |
| 4. Identify, Classify, Analyze Shapes | |

● Yellow Belt 2

Arena 2 · 6 Weeks

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|---|---|
| 1. Classifying Shapes by Line & Angle Types | 5. Types Of triangles |
| 2. Curves & Polygons | 6. Classifying Triangles By Angles & Side Lengths |
| 3. Angles With Polygons | 7. Review/Assessment |
| 4. Geometric Solids- 3D Shapes | |

Green Belt 1

Arena 3 · 6 Weeks

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|---|-------------------------------|
| 1. Triangle Angles | 4. Circumcenter Of A Triangle |
| 2. Finding Angle-Measure Between Intersecting Lines | 5. Angle Bisectors |
| 3. Triangle Inequality Theorem & Side Length Rules | 6. Review/Assessment |

Green Belt 2

Arena 3 · 6 Weeks

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|--|---|
| 1. Triangle Medians & Centroids | 4. Quadrilaterals - Proofs & Angles |
| 2. Altitudes | 5. Coordinate Plane - Introduction & Graph Points |
| 3. Quadrilaterals - Introduction & Types | 6. Review/Assessment |

Blue Belt 1

Arena 4 · 6 Weeks

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|--|---|
| 1. Quadrants On The Coordinate Plane | 4. Drawing Polygons On The Coordinate Plane |
| 2. Reflecting Points On The Coordinate Plane | 5. Area By Counting Unit Squares |
| 3. Quadrilaterals On The Coordinate Plane | 6. Review/Assessment |

Blue Belt 2

Arena 4 · 6 Weeks

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|---|---|
| 1. Perimeter- Introduction, Unit Conversion & Metric System | 4. Area Of Shapes On Grids |
| 2. Area of Rectangle & Parallelograms | 5. Area Of Trapezoids & Composite Figures |
| 3. Area Of Triangles & Finding Base, Height Of Triangles | 6. Review/Assessment |

Red Belt 1

6 Weeks

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|---|---|
| 1. Area & Circumference Of Circles | 5. Surface Area - Introduction & Using Nets |
| 2. Area Of Diagonal-Generated Triangles | 6. Volume Of Cones, Cylinders & Spheres |
| 3. Volume Of Rectangular Prisms | 7. Review/Assessment |
| 4. Volume With Fractional lengths | |

Red Belt 2

6 Weeks

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|---------------------------------------|--|
| 1. Surface & Volume Density | 5. Pythagorean Theorem - Application & Proofs |
| 2. Cross Section Of 3D Objects | 6. Pythagorean Theorem & Distance Between Two Points |
| 3. Heron's Formula | 7. Review/Assessment |
| 4. Pythagorean Theorem - Introduction | |

● Black Belt 1

6 Weeks

1. Transformations- Introduction & Identification
2. Translations - Introduction & Properties
3. Rotations & Reflections
4. Dilations - Introduction & Properties
5. Symmetry - Reflective & Rotational
6. Congruence - Triangle Congruence & Theorems
7. Review/Assessment

● Black Belt 2

6 Weeks

1. Similarity - Definitions, Introductions & Application
2. Special Right Triangles, Trigonometric Ratios & Reciprocals
3. Application Of Trigonometric Ratio, Law Of Cosines & Sines
4. Circles- Arcs, Radians, Sectors & Inscribed Shapes/Angles
5. Properties Of Tangents & Inscribed Triangles
6. Analytic Geometry
7. Constructions- Bisectors, Polygons, Circumcircles, Incircles, Tangents