



CURRICULAR · MATH

Algebra 2

A twelve-month Algebra 2 ladder of eight six-week belts that moves from rational numbers, exponents and polynomials through geometric series, logarithms, trigonometry, sinusoidal models and complex numbers.

8 belts

48 topics

Grade 11

Completes in 12 Months

○ White Belt 1

Arena 1 · 6 Weeks

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|---------------------------------------|---|
| 1. Rational Numbers and Operations | 4. Polynomials- Introduction & Operations |
| 2. Rational Exponents | 5. Monomials & Binomials |
| 3. Radicals - Properties & Evaluating | 6. Review/Assessment |

○ White Belt 2

Arena 1 · 6 Weeks

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|---|--|
| 1. Polynomial Identities | 4. Geometric Series - Introduction & Formula |
| 2. Polynomial Factorization | 5. Finite/Infinite Geometric Series |
| 3. Factorization Using Structure & Substitution | 6. Review/Assessment |

● Yellow Belt 1

Arena 2 · 6 Weeks

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|--|---------------------------------------|
| 1. Polynomial Division - By x , linear factors & expressions | 4. The Binomial Theorem |
| 2. Polynomial Remainder Theorem | 5. Exponential Model & Rate of change |
| 3. Polynomial Graphs | 6. Review/Assessment |

● Yellow Belt 2

Arena 2 · 6 Weeks

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|---|-------------------------------------|
| 1. Logarithms - Introduction & Properties | 4. Inverse Functions and Logarithms |
| 2. Relationship Between Logarithm & Exponents | 5. Shifting & Reflecting Functions |
| 3. Change Of Base Formula & Equations With Logarithms | 6. Review/Assessment |

● Green Belt 1

Arena 3 · 6 Weeks

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|---|--|
| 1. Symmetry Of Functions | 4. Factoring a Sum/Difference of Cubes |
| 2. Rational & Square-root Equations | 5. Quadratic Systems |
| 3. Extraneous Solutions & Cube-root Equations | 6. Review/Assessment |

Green Belt 2

Arena 3 · 6 Weeks

1. Solving Equations With Graphing
2. Trigonometry - Introduction & Radians
3. Trigonometric Identities & Values
4. The Law of Sines and Cosines
5. Graphs Of $\sin(x)$, $\cos(x)$, & $\tan(x)$
6. Review/Assessment

Blue Belt 1

Arena 4 · 6 Weeks

1. Sinusoidal Models
2. Transforming & Graphing Sinusoidal functions
3. Modeling With Functions & Two/Multiple Variables
4. Interpreting Features Of Functions
5. Graphing general rational functions
6. Review/Assessment

Blue Belt 2

Arena 4 · 6 Weeks

1. Manipulating Functions
2. Imaginary Numbers & Their Power
3. Complex Numbers - Introduction & Classification
4. Rationalizing imaginary denominators
5. Complex Plane & Complex Number Operations
6. Review/Assessment