

Algebra II 1: An Intro to Equations

Week 1: **Intro to Polynomials**

- Parts of a polynomial expression
- Standard forms of a polynomial
- Identifying degrees of a polynomial

<https://www.khanacademy.org/math/algebra/x2f8bb11595b61c86:quadratics-multiplying-factorin/g/x2f8bb11595b61c86:multiply-monomial-polynomial/v/polynomials-intro>

<https://www.brightstorm.com/math/algebra-2/polynomials/introduction-to-polynomials/>

<https://courses.lumenlearning.com/boundless-algebra/chapter/introduction-to-polynomials/>

Week 2: **Average Rate of Change Over an Interval**

- Calculating average rate of change
- Signs of average rate of change

<http://www.projectglobalawakening.com/average-rate-of-change-of-polynomials/>

<https://www.youtube.com/watch?v=9COoRE8pc5k>

Week 3: **Adding and Subtracting Polynomials**

- Simplifying polynomials
- Arithmetic with polynomials

<https://www.khanacademy.org/math/algebra2/x2ec2f6f830c9fb89:poly-arithmetic/x2ec2f6f830c9fb89:poly-add-sub/a/adding-and-subtracting-polynomials-review>

Week 4: **Multiplying Polynomials**

- Multiplying monomials
- Multiplying a monomial by a polynomial

<https://www.youtube.com/watch?v=QLtVd9qOec8>

<https://www.mathsisfun.com/algebra/polynomials-multiplying.html>

Week 5: **Multiplying Polynomials Part 2**

- Multiply binomials by polynomials

<https://www.mathsisfun.com/algebra/polynomials-multiplying.html>

Week 6: **Special Polynomials**

- Product of two binomials
- Perfect Squares

<https://www.mathsisfun.com/algebra/special-binomial-products.html>

<https://www.khanacademy.org/math/algebra/x2f8bb11595b61c86:quadratics-multiplying-factorin/g/x2f8bb11595b61c86:multiply-binomial/v/multiplying-binomials>

Week 7: **Imaginary Numbers**

- Intro to imaginary numbers
- Simply roots of negative numbers
- $i = \sqrt{-1}$

Week 8: **Complex Numbers**

- Parts of complex numbers
- Classifying complex numbers
- Complex numbers in the complex plane

<https://www.khanacademy.org/math/algebra2/x2ec2f6f830c9fb89:complex/x2ec2f6f830c9fb89:imaginary/v/introduction-to-i-and-imaginary-numbers>

<https://www.mathsisfun.com/numbers/imaginary-numbers.html>

Week 9: **Arithmetic with Complex Numbers**

- Adding and subtracting complex numbers
- Adding and subtracting complex numbers in the complex plane

<https://www.youtube.com/watch?v=QckPmaq4dVk>

<https://courses.lumenlearning.com/ivytech-collegealgebra/chapter/add-and-subtract-complex-numbers/>

Week 10: **Multiplying Complex Numbers**

- <https://www.khanacademy.org/math/algebra2/x2ec2f6f830c9fb89:complex/x2ec2f6f830c9fb89:complex-mul/a/multiplying-complex-numbers>

Week 11: **Factoring Monomials**

- Greatest common factor of monomials
- Factor monomials

<https://www.khanacademy.org/math/algebra2/x2ec2f6f830c9fb89:poly-factor/x2ec2f6f830c9fb89:common-factor/a/taking-common-factors>

Week 12: **Factor Polynomials**

- Finding a common factor
- Factoring polynomials

<https://www.youtube.com/watch?v=KUMhpKGwpCY>