

| Algebra II Teaching & Learning Framework | | | | | | |
|--|--|--|---|--|--|---|
| Semester 1 | | | Semester 2 | | | |
| Unit 1 4 weeks | Unit 2 5 weeks | Unit 3 6 weeks | Unit 4 6 weeks | Unit 5 5 weeks | Unit 6 5 weeks | Unit 7 5 weeks |
| Quadratics Revisited | Operations with Polynomials | Polynomial Functions | Rational & Radical Relationships | Exponentials & Logarithms | Mathematical Modeling | Inferences and Conclusions from Data Review & Extend |
| <p>MGSE9-12.N.CN.1 (Complex numbers)</p> <p>MGSE9-12.N.CN.2 (Complex numbers & properties)</p> <p>MGSE9-12.N.CN.3 (Conjugate of complex numbers)</p> <p>MGSE9-12.N.CN.7 (Solve quadratics with complex solutions)</p> <p>MGSE9-12.N.CN.8 (Factoring with complex solutions)</p> <p>MGSE9-12.A.REI.4 (Solve quadratics in 1 variable)</p> <p>MGSE9-12.A.REI.4b (Solve quadratic equations by inspection)</p> <p>MGSE9-12.N.RN.1 (Rational exponents)</p> <p>MGSE9-12.N.RN.2 (Expressions with radicals & rational exponents)</p> | <p>MGSE9-12.A.APR.1 (Add, subtract & multiply polynomials)</p> <p>MGSE9-12.A.APR.5 (Binomial Theorem)</p> <p>MGSE9-12.A.APR.6 (Rewrite rational expressions)</p> <p>MGSE9-12.F.BF.1 (Write a function)</p> <p>MGSE9-12.F.BF.1b (Combine standard functions)</p> <p>MGSE9-12.F.BF.1c (Compose functions)</p> <p>MGSE9-12.F.BF.4 (Inverse functions)</p> <p>MGSE9-12.F.BF.4a ($f(x)=c$ & inverse)</p> <p>MGSE9-12.F.BF.4b (Use composition to verify inverses)</p> <p>MGSE9-12.F.BF.4c (Values of inverse function from graph or table)</p> | <p>MGSE9-12.N.CN.9 (Fundamental Theorem of Algebra)</p> <p>MGSE9-12.A.SSE.1,a,b (Interpret expressions; Interpret parts & terms of expressions)</p> <p>MGSE9-12.A.SSE.2 (Equivalent expressions)</p> <p>MGSE9-12.A.APR.2 (Remainder Theorem)</p> <p>MGSE9-12.A.APR.3 (Identify zeros)</p> <p>MGSE9-12.A.APR.4 (Polynomial Identities)</p> <p>MGSE9-12.F.IF.4 (Characteristics of functions)</p> <p>MGSE9-12.F.IF.7 (Graph functions)</p> <p>MGSE9-12.F.IF.7c (Graph polynomial functions)</p> | <p>MGSE9-12.A.APR.7 (Rewrite rational expressions)</p> <p>MGSE9-12.A.CED.1 (Create equations & inequalities-1 variable)</p> <p>MGSE9-12.A.CED.2 (create equations & inequalities-2 variables)</p> <p>MGSE9-12.A.REI.2 (Solve simple radical & rational equations)</p> <p>MGSE9-12.F.IF.4 (Characteristics of functions)</p> <p>MGSE9-12.F.IF.5 (Domains of functions)</p> <p>MGSE9-12.F.IF.7 (Graph Functions)</p> <p>MGSE9-12.F.IF.7b (Graph square rt, cube rt, piecewise, step & absolute value functions)</p> <p>MGSE9-12.F.IF.7d (Graph rational functions)</p> | <p>MGSE9-12.A.SSE.3 (Equivalent expressions)</p> <p>MGSE9-12.A.SSE.3c (Properties of exponents)</p> <p>MGSE9-12.F.IF.7 (Graph functions)</p> <p>MGSE9-12.F.IF.7e (Graph exponential & logarithmic functions)</p> <p>MGSE9-12.F.IF.8 (Write a function)</p> <p>MGSE9-12.F.IF.8b (Interpret expressions)</p> <p>MGSE9-12.F.BF.5 (Inverse relationships)</p> <p>MGSE9-12.F.LE.4 (Express exponential models as logarithmic)</p> | <p>MGSE9-12.A.SSE.4 (Derive formula for sum of finite geometric series)</p> <p>MGSE9-12.A.CED.1 (Create equations & inequalities-1 variable)</p> <p>MGSE9-12.A.CED.2 (create equations & inequalities-2 variables)</p> <p>MGSE9-12.A.CED.3 (Represent constraints)</p> <p>MGSE9-12.A.CED.4 (Rearrange formulas)</p> <p>MGSE9-12.A.REI.11 (Solutions to equations)</p> <p>MGSE9-12.F.IF.6 (Average rate of change)</p> <p>MGSE9-12.F.IF.9 (Compare 2 functions)</p> <p>MGSE9-12.F.BF.3 (Build new functions from existing functions)</p> | <p>MGSE9-12.S.ID.2 (Shape & data distribution)</p> <p>MGSE9-12.S.ID.4 (Fit to a normal distribution)</p> <p>MGSE9-12.S.IC.1 (Inferences from a random sample)</p> <p>MGSE9-12.S.IC.2 (Using simulations)</p> <p>MGSE9-12.S.IC.3 (Randomization)</p> <p>MGSE9-12.S.IC.4 (Population mean)</p> <p>MGSE9-12.S.IC.5 (Compare 2 treatments)</p> <p>MGSE9-12.S.IC.6 (Evaluate reports based on data)</p> <p>Review: All standards by differentiating for student needs</p> <p>Extend: MGSE9-2.N.CN.4 (Complex plane)</p> |

These units were written to build upon concepts from prior units, so later units contain tasks that depend upon the concepts addressed in earlier units. All units will include the Mathematical Practices and indicate skills to maintain.

NOTE: Mathematical standards are interwoven and should be addressed throughout the year in as many different units and tpmasks as possible in order to stress the natural connections that exist among mathematical topics.

Grades 9-12 Key: Algebra Strand: SSE = Seeing Structure in Expressions, APR = Arithmetic with Polynomial and Rational Expressions, CED = Creating Equations, REI = Reasoning with Equations and Inequalities

Functions Strand: IF = Interpreting Functions, LE = Linear and Exponential Models, BF = Building Functions, TF = Trigonometric Functions

Geometry Strand: CO = Congruence, SRT = Similarity, Right Triangles, and Trigonometry, C = Circles, GPE = Expressing Geometric Properties with Equations, GMD = Geometric Measurement and Dimension, MG = Modeling with Geometry

Statistics and Probability Strand: ID = Interpreting Categorical and Quantitative Data, IC = Making Inferences and Justifying Conclusions, CP = Conditional Probability and the Rules of Probability, MD = Using Probability to Make Decisions

Algebra II Teaching & Learning Framework

Block Schedule

| Unit 1 2 weeks | Unit 2 2.5 weeks | Unit 3 3 weeks | Unit 4 3 weeks | Unit 5 2.5 weeks | Unit 6 2.5 weeks | Unit 7 2.5 weeks |
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