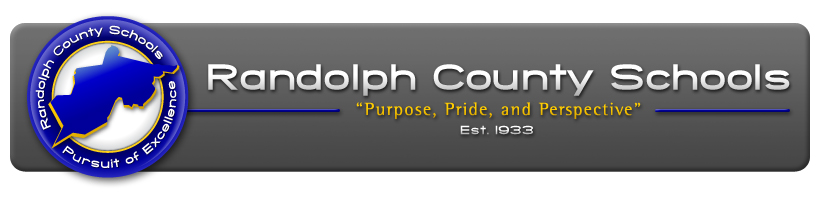
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| **Grade: High School Algebra 2 Content Area Mathematics** | | | | | | |
| **Instructor Note: Standards 17, 18, and 23 – 35 include all ways to model functions and will be covered throughout many different units of instruction.** | | | | | | |
| **Timeline** | **Cluster** | **College and Career Readiness Standards** | **Student I Can Statement(s) / Learning Target(s)** | **Academic Vocabulary** | **Assessments** | **Notes / Self - Reflection** |
| First Half | Trigonometric Functions | Standards 19 – 22 | Extending the domain of trigonometric functions using the unit circle.  Model periodic phenomenon with trigonometric functions.  Prove and apply trigonometric identities. | Domain  Range  Function  Unit Circle  Radian  Arc  Unit Circle  Amplitude  Frequency  Midline  Pythagorean Identities | Star Benchmark  Teacher created formative and summative assessment  Ongoing informal assessment  Performance based assessment |  |
| First Half | Complex Number System | Standards 1 - 5 | Perform arithmetic operations with complex numbers.  Solve quadratic equations that have complex solutions.  Extend polynomial identities to complex numbers  Show how the fundamental theorem of algebra relates to quadratic functions. | i  complex number  fundamental theorem of algebra | Star Benchmark  Teacher created formative and summative assessment  Ongoing informal assessment  Performance based assessment |  |
| First Half | Polynomial Functions | Standards 6 – 13 | Interpret the structure of expressions  Perform arithmetic operations of polynomials  Understand relationship between zeros and factors.  Model polynomials with tables, equations, and graphs. | Factor  Term  Degree  Zero  Root  Solution  Maximum  Minimum  End Behavior  Multiplicity  Polynomial Long Division  Synthetic Division  Rational Root Theorem | Star Benchmark  Teacher created formative and summative assessment  Ongoing informal assessment  Performance based assessment |  |
| Second Half | Radical Functions | Standard 16 | Solve radical functions  Model radical functions with tables, equations, graphs, and as inverses to polynomial functions.  Demonstrate how extraneous solutions may arise in this process. | Radical Function  Extraneous solution  Inverse  Domain restrictions | Star Benchmark  Teacher created formative and summative assessment  Ongoing informal assessment  Performance based assessment |  |
| Second Half | Rational Functions | Standards 14-16 | Rewriting rational expression using inspection and long division.  Model radical functions with tables, equations, and graphs. | Numerator  Denominator  Remainder  Common Factors  Asymptotes  Holes | Star Benchmark  Teacher created formative and summative assessment  Ongoing informal assessment  Performance based assessment |  |
| Second Half | Logarithm Functions  Instructor Note:  This unit can be included to extend to more complex situations as needed for an honors course. | Standard 36 | Converting exponential to logarithms.  Evaluate logarithms using technology.  Compare and contrast the basic properties of logarithms with the properties of exponents.  Model logarithmic functions with tables, equations, graphs, and as the inverse of exponential functions. | Logarithm  Argument  Base  Common Log  Natural Log  Change of Base | Star Benchmark  Teacher created formative and summative assessment  Ongoing informal assessment  Performance based assessment |  |
| Second Half | Inferences and Conclusions from Data | Standards 37 - 45 | Summarize, represent, and interpret data on a single count or measurement variable.  Understand and evaluate random processes underlying statistical experiments.  Use probability to evaluate outcomes of decisions. | Normal Distribution  Inference  Simulation  Randomization  Theoretical and Empirical Probability  Statistical Significance  Fair decisions | Star Benchmark  Teacher created formative and summative assessment  Ongoing informal assessment  Performance based assessment |  |