**PACING GUIDE**

**COURSE:** Honors Algebra II **GRADE(S): 10,11**

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| **MONTH** | **UNIT** | **STANDARDS/SKILLS** | **ASSESSMENTS**  What evidence (formative/summative) is utilized to establish that the content, standards, & skills have been mastered? | **CONTENT**  Topics being covered? What do students need to know? (*nouns*) | **ACTIVITIES**  w/Integration of Technology & Career Ready Practices |
| September | Basic Concepts of Algebra  And Inequalities and proof | MA.9-12.A-CED  MA.9-12.A-CED.A  MA.9-12.A-REI  MA.9-12.A-REI.A  MA.9-12.A-REI.B  MA.9-12.A-REI.B.4  MA.9-12.A-REI.D  MA.K-12.2  MA.K-12.6 | Assessment on Algebra 1 Skills | Review of algebra 1 skills | Khan academy  Summer project  Mathxlforschool.com |
| September/October | Linear equation and functions | MA.9-12.A-CED  MA.9-12.A-CED.A  MA.9-12.A-REI  MA.9-12.A-REI.A  MA.9-12.A-REI.B  MA.9-12.A-REI.B.4  MA.9-12.A-REI.D  MA.K-12.2  MA.K-12.6 | Assessment on system of linear equations and inequalities  Assessment on system of non-linear equations  Assessment of systems of three equations  Assessment on Functions | Systems of linear equations  Systems of linear inequalities  Systems of three equations  Systems of non-linear equations  Operation with functions  Composite functions  Inverse functions | Graphing activity  Ti-84 activity  Mathxlforschool.com |
| October | products and factors of polynomials | MA.9-12.A-APR  MA.9-12.A-APR.A  MA.9-12.A-APR.A.1  MA.9-12.A-APR.B  MA.9-12.A-APR.C  MA.9-12.A-APR.D  MA.9-12.A-CED  MA.9-12.A-REI  MA.9-12.A-REI.C | Assessment on polynomials and laws of exponents  Assessment on factoring  Assessment on Solving quadratic equations | Operations with polynomials  Laws of exponents  Multiplying polynomials  Prime factorization  Special factorization  Factoring quadratics  Solving quadratic equations | Factoring activity  Mathxlforschool.com |
| November | Rational expressions | MA.9-12.A-APR.C  MA.9-12.A-APR.D  MA.9-12.A-APR.D.6   |  | | --- | | MA.9-12.A-APR.D.7 |   MA.9-12.A-CED | Assessment on quotients of monomials and zero and negative exponents  Assessment on operations with rational expressions and complex fractions  Assessment on fractional coefficients and equations | Quotients of monomials  Zero and negative exponents  Add, subtract, multiply and divide rational expressions  Complex Fractions  Fractional coefficients and equations | Mathxlforschool.com  Complex fraction activity  Negative exponent activity |
| December | Irrational and complex numbers | MA.9-12.A-APR.C  MA.9-12.A-APR.D  MA.9-12.A-APR.D.6   |  | | --- | | MA.9-12.A-APR.D.7 |   MA.9-12.A-CED | Assessment on roots and radicals  Assessment on sums of radicals, binomials with radicals and equations with radicals  Assessment on complex numbers | Roots of real numbers  Properties of radicals  Sums of radicals  Binomials with radicals  Equations with radicals  Conjugates  Rational and irrational numbers  Imaginary number i  Complex numbers | Finding roots of real numbers  Conjugates  Properties of i  Mathxlforschool.com |
| January | Quadratic equation and functions | MA.9-12.A-REI.B.4  MA.9-12.A-SSE.B.3  MA.K-12.1  MA.K-12.3  MA.K-12.5  MA.K-12.7 | Assessment on completing the square and the quadratic formula  Assessment on the quadratic function and its graph | Completing the square  The quadratic formula  The discriminant  Equations in quadratic form  Graphing y-k = a(x-h)^2  Writing quadratic functions and equations | Parent graph activity  Discriminant activity  Mathxlforschool.com |
| February | Variation and polynomial equations | MA.K-12.5  MA.K-12.6  MA.K-12.7  MA.K-12.8  MA.9-12.A-REI.D  MA.9-12.A-SSE | Assessment on variation and proportion.  Assessment on polynomial equations | Direct variation and proportion  Inverse and joint variation  Dividing polynomials  Synthetic division  The remainder and factor theorems | Mathxlforschool.com |
| March | Exponental and Logarithmic Functions | MA.K-12.1  MA.K-12.2  MA.K-12.3  MA.K-12.4   |  | | --- | | MA.9-12.A-REI.D |   MA.9-12.A-SSE.B.3  MA.9-12.F-IF  MA.9-12.F-LE  MA.9-12.F-LE.B | Assessment rational and real number exponents  Assessment on logarithmic functions  Assessment on applications of logarithms and exponential growth and decay | Rational exponents  Real number exponents  Definition of logarithms  Laws of logarithms  Applications of logarithms  Exponential growth and decay  The natural Log functions | Exponential growth and decay activity  Mathxlforschool.com  Graphing exponential functions activity |
| April | Matrices | MA.K-12.1  MA.K-12.4  MA.K-12.5  MA.K-12.7  MA.K-12.8  MA.9-12.A-REI.C  MA.9-12.N-VM.C | Assessment on matrix operations  Assessment on inverses of matrices  Assessment on cramers rule | Operations on matrices  Determinants  Inverses of matrices  Properties of determinants  Cramer’s Rule | Mathxlforschool.com |
| April | Sequesnces and Series | MA.K-12.1  MA.K-12.5  MA.K-12.7  MA.K-12.8  MA.9-12.S-IC  MA.9-12.S-ID.C | Assessment on sequences | Types of sequences  Arithmetic sequences  Geometric Sequences | Sequences activity |
| May | Sequense and series | MA.K-12.1  MA.K-12.5  MA.K-12.7  MA.K-12.8  MA.9-12.S-IC  MA.9-12.S-ID.C | Assessment on series  Assessment on Binomial expansion | Series and sigma notation  Sums of Arithmetic and geometric Serios  Infinite Geometric Series  Powers of binomials  The general Binomial expansion | Pascal Triangle activity |
| May/June | Statistics | MA.K-12.1  MA.K-12.5  MA.K-12.7  MA.K-12.8  MA.9-12.S-IC  MA.9-12.S-ID.C  MA.9-12.S-CP MA.9-12.S-IC  MA.9-12.S-ID.A  MA.9-12.S-ID.B  MA.9-12.S-ID.C  MA.9-12.S-MD | Assessment on Statistics  Assessment on counting | Presenting Statistical Data  Analyzing Statistical Data  The Normal Distribution  Correlation  Fundmental Counting Principle  Permutations  Combinations | Airline problem  Tree diagrams |