**Curriculum and Pacing Guide**

**Mathematics: Precalculus**

**Textbook: Larson Precalculus with Limits A Graphing Approach**

**2020 - 2021**

**Course Overview**

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| **Week** | **Topics** | **Essential Questions** |
| **Week 1** | * Day 1 Introduction / Opening * Modeling and Equation Solving * Functions and Their Properties | * What is the domain and range of a function? * What makes a function even or odd? * How do you determine when a function is increasing or decreasing? * What is the extreme of the function? |
| **Week 2** | * Twelve Basic Functions * Building Functions from Functions * Parametric Relations and Inverses | * What is meant by composition? * How do you combine functions algebraically? * What does it mean to define relations parametrically? * What is an inverse function, and how can I find it? |
| **Week 3** | * Graphical Transformations * Modeling with Functions | * How do transformations change a graph? * How can the relative extrema be used in real world applications? |
| **Week 4** | * Review/Test Chapter 1 * Linear and Quadratic Functions and Modeling | * How do I recognize and graph linear/quadratic functions? * How can I use linear/quadratic functions to model situations and solve problems? |
| **Week 5** | * Power Functions of Higher Degree with Modeling * Intermediate Value Theorem * Real Zeros of Polynomial Functions | * How do I sketch power functions? * How can I use power functions to model situations? * What do the graphs of higher order polynomials look like? * What are different names for the solutions of polynomial equations? * How can I solve polynomial functions using different methods? * How do I apply the Remainder Theorem, Factor Theorem and Rational Zeros Theorem? |
| **Week 6** | * Complex Zeros * Fundamental Theorem of Algebra * Graphs of Rational Functions | * What is The Fundamental Theorem of Algebra? * What is a complex number and conjugate? * What is the difference between a removable discontinuity and a vertical asymptote? * How do you find vertical and horizontal asymptotes for rational functions? |
| **Week 7** | * Solving Equations in One Variable * Review/Test | * How do I identify extraneous solutions? |
| **Week 8** | * Exponential and Logistic Functions * Exponential and Logistic Modeling | * How do I evaluate exponential and logarithmic expressions? * How do I identify and graph exponential, logistic and logarithmic functions? * How do I use exponential functions to model real life problems? |
| **Week 9** | * Logarithmic Functions and their Graphs * Properties of Logarithmic Functions * Review/Test | * What is an exponential function and how do I find its inverse? * How do I convert equations between logarithmic form and exponential form? * How do I apply the properties of logarithms to evaluate expressions, to solve exponential and logarithmic equations and to graph functions? |
| **Week 10** | * Equation Solving and Modeling * Mathematics of Finance | * How are exponential and logarithmic models used in real world applications? |
| **Week 11** | * Review/Test * Angles and Their Measures | * What is a radian? * How can I convert between radian and degree measures? * How do I find arc lengths? * How do I solve problems involving angular speed? |
| **Week 12** | * Trigonometric Functions of Acute Angles * Trigonometry Extended: Circular Functions | * What are the special right triangles and how can they be used? * What do the points on the circle represent? * How do I define the six trigonometric functions using the length of the sides of a right triangle? * In what quadrants are each of the trig functions positive? |
| **Week 13** | * Trigonometry Extended: Circular Functions * Test Non-Calculator/Calculator |  |
| **Week 14** | * Graphs of Sine and Cosine: Sinusoids * Graphs of Tangent, Cotangent, Secant and Cosecant | * How do I graph sine and cosine functions? * What causes various transformations of these graphs? * How do I graph tangent, cotangent, secant and cosecant functions? |
| **Week 15** | * Inverse Trigonometric Functions * Solving Problems with Trigonometry | * What are the domain and range of inverse trig functions? * How do inverse trig functions relate to trig functions? * How do I apply the concepts of trigonometry to solve real world problems? |
| **Week 16** | * Review * Calculator/Non-Calculator Test |  |
| **Week 17-19** | * Midterm Review / Midterm |  |
| **Week 20** | * Fundamental Identities * Proving Trigonometric Identities | * How do I use the fundamental identities to simplify trigonometric expressions and solve trigonometric equations? |
| **Week 21** | * Sum and Difference Identities * Multiple Angle Identities | * How can I find the trig value of a difference or a sum? * How can I use the multiple angle identities? |
| **Week 22** | * Multiple Angle Identities * Law of sines * Law of cosines | * When should I use the law of sines or cosines? * What is the ambiguous case for the law of sines? |
| **Week 23** | * Review/Test * Law of Sines/Cosines Project or SAT Practice | * How can the law of sines/cosines be applied to the real world? |
| **Week 24** | * Vectors in the plane * Dot Products of Vectors | * What is a unit vector? * How do I find the angles between two vectors? * What are orthogonal vectors? |
| **Week 25** | * Parametric Equations and Motion * Polar Coordinates | * What is a parametric equation? * What is a polar coordinate? |
| **Week 26** | * Graphs of Polar Equations * De Moivre’s Theorem and Nth Roots | * What are the different types of polar equations? * What is the trigonometric form of a complex number? * How can I multiply and divide complex numbers? * How can I raise complex numbers to different powers? |
| **Week 27** | * Review/Test * Multivariable Linear Systems and Row Operations | * How can I solve a non-square system? |
| **Week 28** | * Partial Fractions * Review/Test | * What is partial fraction decomposition? |
| **Week 29** | * Conic Sections and Parabolas * Ellipses | * How can I write the equation of a parabola? * How can I write the equation of an ellipse? |
| **Week 30** | * Hyperbolas * Translation and Rotation of Axes * Review/Test | * How can I write the equation of a hyperbola? * How can I use the discriminant to classify a conic? |
| **Week 31** | * Polar Equations of Conics * Quiz | * How can I analyze the equation of a conic section in polar form? |
| **Week 32** | * FCAT Reading * Binomial Theorem/Pascal’s Triangle * Sequences | * How can I use the binomial theorem to find a specific term in an expansion? * How can I find the limit of a converging sequence? |
| **Week 33** | * Series * Mathematical Induction | * What is sigma notation? * What is an infinite series? * What is mathematical induction and how is it used? |
| **Week 34** | * Mathematical Induction * Review/Test * Limits and Motion: The Tangent Problem |  |
| **Week 35** | * Limits and Motion: The Tangent Problem | * What is the difference between average and instantaneous velocity? * What is a limit? * What is a derivative? * How can I find the derivative at a particular point? |
| **Week 36** | * More on Limits * Review/Test | * How can I evaluate limits both graphically and algebraically? * What is a one sided limit? * How can I apply the prosperities of limits? * How can I evaluate a limit at infinity? |
| **Week 37-39** | * Flex weeks * Final review / final exam |  |

**Semester 1**

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| **Chapter 1: Functions and Graphs** | | | | | | |
| **Week 1** | | | | | | |
| **Days** | **Section** | **Topic** | **Vocabulary** | **Benchmark** | **DW Item #s / Additional Resources** | **Date Completed** |
| 2 | 1.1 | Modeling and Equation Solving | Mathematical models, root, equation, zero, x-intercept | [MA.912.A.2.6](http://www.floridastandards.org/Standards/PublicPreviewBenchmark427.aspx?kw=quadratic) | 16281,  (SI) Diagnostic Test HS Math – Algebra |  |
| 2 | 1.2 | Functions and their Properties | Domain, range, relative min/max value, odd/even function, Extreme Value Theorem | [MA.912.A.4.5](http://www.floridastandards.org/Standards/PublicPreviewBenchmark454.aspx)  [MA.912.A.5.6](http://www.floridastandards.org/Standards/PublicPreviewBenchmark467.aspx)  [MA.912.C.1.11](http://www.floridastandards.org/Standards/PublicPreviewBenchmark186.aspx?kw=)  [MA.912.C.1.13](http://www.floridastandards.org/Standards/PublicPreviewBenchmark188.aspx?kw=) | 7252,7316,7723,7837,7908,8033,8372,8374,16497,20570,20572,20542,7318,7816,7839,7887,7982,20574,16498,80736,134690,161691, |  |
| **Week 2** | | | | | |  |
| 1 | 1.2 cont. | Functions and their Properties |  |  |  |  |
| 1 | 1.3 | Twelve Basic Functions | Continuous, piecewise function | [MA.912.A.2.6](http://www.floridastandards.org/Standards/PublicPreviewBenchmark427.aspx?SubjectAreaID=1) | 131880,132045,161743, |  |
| 1 | 1.4 | Building functions from functions | Composition of functions, relation, implicit | [MA.912.A.2.8](http://www.floridastandards.org/Standards/PublicPreviewBenchmark429.aspx?kw=composition) | 16541,16545, |  |
| 2 | 1.5 | Parametric Relations and Inverses | Parameter, inverse relation/function, reflection | [MA.912.A.2.11](http://www.floridastandards.org/Standards/PublicPreviewBenchmark432.aspx?kw=inverse) | 7878,20573,20576,20545,171513, |  |
| **Week 3** | | | | | | |
| 1 | 1.5 Cont. | Parametric Relations and Inverses |  |  |  |  |
| 2 | 1.6 | Graphical Transformations | Rigid/non-rigid transformations, vertical/horizontal translation, reflections | [MA.912.A.2.6](http://www.floridastandards.org/Standards/PublicPreviewBenchmark427.aspx?kw=quadratic) | 7447,7844,19731,20575,16544,20544,20546,127589,133247, |  |
| 1 | 1.7 | Modeling with Functions | Conversion factors, regression line, correlation coefficient |  |  |  |
| **Week 4** | | | | | |  |
|  |  | Graph polynomial functions with and without technology |  | [MA.912.A.4.5](http://www.floridastandards.org/Standards/PublicPreviewBenchmark454.aspx) |  |  |
| 2 |  | Review |  |  |  |  |
| 1 |  | Chapter 1 Test |  |  |  |  |
| **Chapter 2: Polynomial, Power and Rational Functions** | | | | | | |
| **Days** | **Section** | **Topic** | **Vocabulary** | **Benchmarks** | **DW Item #s / Additional Resources** | **Date Completed** |
| 2 | 2.1 | Linear and Quadratic Functions and Modeling | Leading coefficient, linear function, rate of change, initial value, constant term, correlation, quadratic function, axis of symmetry, vertex | [MA.912.A.4.5](http://www.floridastandards.org/Standards/PublicPreviewBenchmark454.aspx) | 7818,8368,20541,7475,  (SI) Solve Quadratic Equations  HS Math Algebra |  |
| **Week 5** | | | | | | |
| 2 | 2.2 | Power Functions | Constant of proportion/variation, direct/inverse variation, monomial function | [MA.912.A.2.12](http://www.floridastandards.org/Standards/PublicPreviewBenchmark433.aspx?SubjectAreaID=1) | 8373, |  |
| 2 | 2.3 | Polynomial Functions of Higher Degree with Modeling | Cubic functions, quartic functions, term, standard form, coefficients, leading term, multiplicity, polynomial interpolation, Intermediate Value Theorem | [MA.912.A.4.5](http://www.floridastandards.org/Standards/PublicPreviewBenchmark454.aspx?kw=)  [MA.912.A.4.8](http://www.floridastandards.org/Standards/PublicPreviewBenchmark457.aspx?kw=)  [MA.912.C.1.12](http://www.floridastandards.org/Standards/PublicPreviewBenchmark187.aspx?kw=) | 7318,16288,80697,81443,81446, |  |
| 1 | 2.4 | Real Zeros of Polynomial Functions | Upper/lower bound, quotient, remainder, dividend, divisor, synthetic division, rational/irrational zeros | [MA.912.A.4.6](http://www.floridastandards.org/Standards/PublicPreviewBenchmark455.aspx)  [MA.912.A.4.8](http://www.floridastandards.org/Standards/PublicPreviewBenchmark457.aspx) | 7132,7197,7448,7451,7597,7744,7747,7850,7960,20543,16543,16572,16527,166240,166249,  (SI) Zeros of a Polynomial  HS Math Algebra |  |
| **Week 6** | | | | | | |
| 1 | 2.4 Cont. | Real Zeros of Polynomial Functions |  |  |  |  |
| 3 | 2.5 | Complex Zeros and the Fundamental Theorem of Algebra | Fundamental Theorem of Algebra, Linear Factorization Thm. | [MA.912.A.4.6](http://www.floridastandards.org/Standards/PublicPreviewBenchmark455.aspx)  [MA.912.A.4.7](http://www.floridastandards.org/Standards/PublicPreviewBenchmark456.aspx?kw=)  [MA.912.A.4.8](http://www.floridastandards.org/Standards/PublicPreviewBenchmark457.aspx) | 7489,7847,7938,8059,8067,8072,8076,8082,8085,16578,16528,7181,7202,7493,7849,7857,8088,16575, |  |
| 1 | 2.6 | Graphs of Rational Functions | Rational function, asymptote, slant asymptote | [MA.912.A.5.6](http://www.floridastandards.org/Standards/PublicPreviewBenchmark467.aspx) | 7190,7333,7495,7750,16529,16569,7132,81763,81775, |  |
| **Week 7** | | | | | | |
| 1 | 2.6 Cont. | Graphs of Rational Functions |  |  |  |  |
| 2 | 2.7 | Solving Equations in One Variable | Extraneous solutions, rational equations | [MA.912.A.5.5](http://www.floridastandards.org/Standards/PublicPreviewBenchmark466.aspx?kw=Rational%20Equations) | 2059,16217,20341,7924,8055,81804,81808,81809, |  |
| 2 |  | Review |  |  |  |  |
|  | Chapter 2 test (include review problems from chapter 1) |  |  |  |  |
|  |  | Graph polynomial functions with and without technology and describe end behavior. |  | [MA.912.A.4.5](http://www.floridastandards.org/Standards/PublicPreviewBenchmark454.aspx) | 7223,81374,81378, |  |
| **Week 8** | | | | | | |
| **Chapter 3: Exponential, Logistic and Logarithmic Functions** | | | | | | |
| **Days** | **Section** | **Topic** | **Vocabulary** | **Benchmarks** | **DW Item #s / Additional Resources** | **Date Completed** |
| 3 | 3.1 | Exponential and Logistic Functions | Transcendental functions, exponential growth/decay function, logistic growth, natural base *e,* compound interest | [MA.912.A.8.7](http://www.floridastandards.org/Standards/PublicPreviewBenchmark490.aspx) | 7500,7755,7927,7966,16581, |  |
| 2 | 3.2 | Exponential and Logistic Modeling | Radioactive decay, half-life |  |  |  |
| **Week 9** | | | | | | |
| 2 | 3.3 | Logarithmic Functions and Their Graphs | Common logarithms, natural logarithms | [MA.912.A.8.3](http://www.floridastandards.org/Standards/PublicPreviewBenchmark486.aspx?kw=) | 7138,7257,7291,7504,7930,8103,  (SI) Solve Exponential Equations and Inequalities  HS Math Algebra |  |
| 1 | 3.4 | Properties of Logarithmic Functions | Product/quotient/power rules | [MA.912.A.8.2](http://www.floridastandards.org/Standards/PublicPreviewBenchmark485.aspx?kw=)  [MA.912.A.8.4](http://www.floridastandards.org/Standards/PublicPreviewBenchmark487.aspx?kw=MA.912.A.8.4)  [MA.912.A.8.6](http://www.floridastandards.org/Standards/PublicPreviewBenchmark489.aspx?kw=) | 7256,7406,7506,16531,16576,7150, |  |
| 2 |  | Review/ Chapter 3.1-3.4 test (include review problems from chapter 1 & 2) |  |  |  |  |
| **Week 10** | | | | | | |
| 2 | 3.5 | Equation Solving and Modeling | Order of magnitude, regression models | [MA.912.A.8.1](http://www.floridastandards.org/Standards/PublicPreviewBenchmark484.aspx?kw=)  [MA.912.A.8.5](http://www.floridastandards.org/Standards/PublicPreviewBenchmark488.aspx) | 7143,7513,7678,7808,7855,7860,7923,7946,8106,16530,81727,166245,171527, |  |
| 2 | 3.6 | Mathematics of Finance | Compound interest, compounded continuously | [MA.912.A.8.7](http://www.floridastandards.org/Standards/PublicPreviewBenchmark490.aspx) |  |  |
| **Week 11** | | | | | | |
| 1 |  | Review |  |  |  |  |
| 1 |  | Chapter 3 test (include review problems from chapter 1 & 2) |  |  |  |  |
| **Chapter 4: Trigonometric Functions** | | | | | | |
| **Days** | **Section** | **Topic** | **Vocabulary** | **Benchmarks** | **DW Item #s / Additional Resources** | **Date Completed** |
| 3 | 4.1 | Angles and Their Measures | Central angle, degree, minutes, seconds, radian, arc length | [MA.912.T.1.1](http://www.floridastandards.org/Standards/PublicPreviewBenchmark324.aspx) | 7401,7407,7444,7752,7976,20548,16501, |  |

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| **Week 12** | | | | | | | | | | | |
| 2 | 4.2 | | Trigonometric Functions of Acute Angles | | Right triangle trigonometry, standard position, sine cosine, tangent, cosecant, secant, cotangent | | [MA.912.T.1.4](http://www.floridastandards.org/Standards/PublicPreviewBenchmark327.aspx?kw=)  [MA.912.T.1.5](http://www.floridastandards.org/Standards/PublicPreviewBenchmark328.aspx?kw=)  [MA.912.T.2.1](http://www.floridastandards.org/Standards/PublicPreviewBenchmark332.aspx?kw=)  [MA.912.T.2.2](http://www.floridastandards.org/Standards/PublicPreviewBenchmark333.aspx?kw=)  [MA.912.T.2.4](http://www.floridastandards.org/Standards/PublicPreviewBenchmark335.aspx?kw=) | | 7454,7478,20586,16504,20561,  (SI) Right Triangle Trigonometry  HS Math Geometry | |  |
| 2 | 4.3  Part I | | Trigonometry Extended: The Circular Functions | | Initial/terminal side, vertex, coterminal angles, quadrantal angles, circular functions, periodic function, period | | [MA.912.T.1.2](http://www.floridastandards.org/Standards/PublicPreviewBenchmark325.aspx)  [MA.912.T.1.3](http://www.floridastandards.org/Standards/PublicPreviewBenchmark326.aspx)  [MA.912.T.1.5](http://www.floridastandards.org/Standards/PublicPreviewBenchmark328.aspx?kw=) | | 7449,7460,7521,7756,7875,7935,8115, 20557,16509,20579,16505,20580,7335,7774,8112,171499, | |  |
| **Week 13** | | | | | | | | | | | |
| 2 | 4.3  Part II | | Trigonometry Extended: The Circular Functions | | Initial/terminal side, vertex, coterminal angles, circular functions, periodic function, period | | [MA.912.T.1.2](http://www.floridastandards.org/Standards/PublicPreviewBenchmark325.aspx)  [MA.912.T.1.3](http://www.floridastandards.org/Standards/PublicPreviewBenchmark326.aspx)  [MA.912.T.1.5](http://www.floridastandards.org/Standards/PublicPreviewBenchmark328.aspx?kw=) | | See above | |  |
| 2 |  | | Review | |  | |  | |  | |  |
| 1 |  | | Chapter 4.1-4.3 non-calculator/calculator test (include review problems from chapter 1 through 3) | |  | |  | |  | |  |
| **Week 14** | | | | | | | | | | | |
| 3 | 4.4 | | Graphs of sine and cosine functions: Sinusoids | | Sinusoid, amplitude, phase shift, period, frequency, | | [MA.912.T.1.5](http://www.floridastandards.org/Standards/PublicPreviewBenchmark328.aspx?kw=)  [MA.912.T.1.6](http://www.floridastandards.org/Standards/PublicPreviewBenchmark329.aspx) | | 7341,7529,7542,7599,7602,7758,7770,7771,7884,8116,20583,16508,20569,20584,8116, | |  |
| 2 | 4.5 | | Graphs of Tangent, Cotangent, Secant and Cosecant | |  | | [MA.912.T.1.6](http://www.floridastandards.org/Standards/PublicPreviewBenchmark329.aspx) | | 7358,7594,7868,7883,8381, | |  |
| **Week 15** | | | | | | | | | | | |
| 2 | | 4.7 | | Inverse Trigonometric Functions | |  | | [MA.912.T.1.7](http://www.floridastandards.org/Standards/PublicPreviewBenchmark330.aspx) | | 7408,7633,7639,7798,16512,20582,20585,16507,20556,20552,20555,16550,16551,166248, |  |

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| 2 | 4.8 | Solving Problems with Trigonometry | Angle of elevation/depression, simple harmonic motion, frequency | [MA.912.T.2.2](http://www.floridastandards.org/Standards/PublicPreviewBenchmark333.aspx?kw=)  [MA.912.T.1.8](http://www.floridastandards.org/Standards/PublicPreviewBenchmark331.aspx?kw=) | 7547,7552,8375 ,7865, 16506, |  |
| 1 |  | Review |  |  |  |  |
| **Week 16** | | | | | | |
| 1 |  | Review |  |  |  |  |
| 1 |  | Chapter 4 test  Non-Calculator / Calculator Parts (include review problems from chapter 1 through 3) |  |  |  |  |
| 3 |  | SAT Practice |  |  |  |  |
| **Week 17** | | | | | | |
| 3 |  | Exam Review |  |  |  |  |
| **Week 18/19**   * Midterm Review / Midterm | | | | | | |

**Midterm** 

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| 6 | Review for midterm |
| 1 | Midterm exam |

**Semester 2**

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| **Week 20** | | | | | | | | | | | |
| 3 | | 5.1 | | Fundamental Identities | | | Identities, domain of validity | [MA.912.T.3.1](http://www.floridastandards.org/Standards/PublicPreviewBenchmark336.aspx?kw=)  [MA.912.T.3.4](http://www.floridastandards.org/Standards/PublicPreviewBenchmark339.aspx?kw=) | 7436,7499,7515,7522,7530,7655,7667,7680,7693,7806,8380,8382,20559,16514,16515,166236, | |  |
| **Week 21** | | | | | | | | | | | |
| 1 | | 5.2 | | Proving Trigonometric Identities | | |  | [MA.912.T.3.2](http://www.floridastandards.org/Standards/PublicPreviewBenchmark337.aspx) | 20589,20591,20590,16553,166237, | |  |
| 3 | | 5.3 | | Sum and Difference Identities | | |  | [MA.912.T.3.3](http://floridastandards.org/Standards/PublicPreviewBenchmark338.aspx?kw=) | 7437,7706,7916,16521, | |  |
| 1 | | 5.4  Part 1 | | Multiple-Angle Identities | | |  | [MA.912.T.3.3](http://floridastandards.org/Standards/PublicPreviewBenchmark338.aspx?kw=) | 7711,7697,7800,20596, | |  |
| **Week 22** | | | | | | | | | | | |
| 1 | | 5.4 Part 2 | | Multiple-Angle Identities | | |  |  |  | |  |
| 2 | | 5.5 | | The Law of Sines | | |  | [MA.912.T.2.3](http://floridastandards.org/Standards/PublicPreviewBenchmark334.aspx?kw=) | 7371,7739,7745,7786,20594,20556,33458,33459,33460,33461,33462,33463,33464,33465,33466,  (SI) Law of Sines and Cosines  HS Math Geometry | |  |
| 2 | | 5.6 | | The Law of Cosines | | | Heron’s Formula |  | 7374,7412,7754,7789,7829,8133,8144,8147, 8149,8152,20565,16519,16518,33467,33468,33469,33470,33471,33472,33473,33474,33475,33476,33477,33478,16579,20563,  (SI) Law of Sines and Cosines  HS Math Geometry | |  |
| **Week 23** | | | | | | | | | | | |
| 2 | |  | | Review/Test  (Include problems from chapters 1-4) | | |  |  |  | |  |
| 3 | |  | | Law of Sines/Cosines Project or SAT practice | | |  |  |  | |  |
| **Week 24** | | | | | | | | | | | |
| **Chapter 6: Applications of Trigonometry** | | | | | | | | | | | |
| **Days** | | **Section** | | **Topic** | | | **Vocabulary** | **Benchmarks** | **DW Item #s / Additional Resources** | | **Date Completed** |
| 2 | | 6.1 | | Vectors in the plane | | | Initial/terminal point, magnitude, standard position, unit vector, resultant | [MA.912.D.9.1](http://www.floridastandards.org/Standards/PublicPreviewBenchmark257.aspx)  [MA.912.D.9.2](http://www.floridastandards.org/Standards/PublicPreviewBenchmark258.aspx)  [MA.912.D.9.3](http://www.floridastandards.org/Standards/PublicPreviewBenchmark259.aspx) | 7775,7819 | |  |
| 2 | | 6.2 | | Dot Products of Vectors | | | Orthogonal | [MA.912.D.9.1](http://www.floridastandards.org/Standards/PublicPreviewBenchmark257.aspx)  [MA.912.D.9.2](http://www.floridastandards.org/Standards/PublicPreviewBenchmark258.aspx) | 7627,7894,16571,16523,16540,7792 | |  |
| 1 | | 6.3 | | Parametric Equations and Motion | | | Parameter | [MA.912.D.9.1](http://www.floridastandards.org/Standards/PublicPreviewBenchmark257.aspx)  [MA.912.D.9.2](http://www.floridastandards.org/Standards/PublicPreviewBenchmark258.aspx)  [MA.912.D.9.3](http://www.floridastandards.org/Standards/PublicPreviewBenchmark259.aspx)  [MA.912.D.10.1](http://www.floridastandards.org/Standards/PublicPreviewBenchmark260.aspx)  [MA.912.D.10.2](http://www.floridastandards.org/Standards/PublicPreviewBenchmark261.aspx)  [MA.912.D.10.3](http://www.floridastandards.org/Standards/PublicPreviewBenchmark262.aspx) | 7302,7368,7644,7791,7907,16566 | |  |
| **Week 25** | | | | | | | | | | | |
| 1 | | 6.3 Cont. | | Parametric Equations and Motion | | |  |  |  | |  |
| 2 | | 6.4 | | Polar Coordinates | | | Polar Axis | [MA.912.T.4.1](http://www.floridastandards.org/Standards/PublicPreviewBenchmark340.aspx)  [MA.912.T.4.2](http://www.floridastandards.org/Standards/PublicPreviewBenchmark341.aspx) | 7662,7663,7905,8094,8095,8096,8100,8110 8114,8119,8125,8354,16522,7909 | |  |
| 1 | | 6.5 | | Graphs of Polar Equations | | |  | [MA.912.T.4.3](http://www.floridastandards.org/Standards/PublicPreviewBenchmark342.aspx) | 7665,7793,7910, 166238, | |  |
| **Week 26** | | | | | | | | | | | |
| 1 | | 6.5 Cont. | | Graphs of Polar Equations | | |  |  |  | |  |
| 3 | | 6.6 | | De Moivre’s Theorem and nth Roots | | | Modulus, argument | [MA.912.T.4.4](http://www.floridastandards.org/Standards/PublicPreviewBenchmark343.aspx)  [MA.912.T.4.5](http://www.floridastandards.org/Standards/PublicPreviewBenchmark344.aspx) | 7665,7793,7910, 166238, | |  |
| 1 | |  | | SAT Practice | | |  |  |  | |  |
| **Week 27** | | | | | | | | | | | |
| 2 | |  | | Review | | |  |  |  | |  |
| 1 | |  | | Chapter 6 test (include review problems from chapter 1 through 5) | | |  |  |  | |  |
| **Chapter 7: Systems and Matrices** | | | | | | | | | | |  |
| **Days** | **Section** | | | | **Topic** | | **Vocabulary** | **Benchmarks** | **DW Item #s / Additional Resources** | | **Date Completed** |
| 2 | 7.3 | | | | Multivariable Linear Systems and Row Operations | |  | [MA.912.A.3.14](http://floridastandards.org/Standards/PublicPreviewBenchmark448.aspx?kw=) | 16537,1925,7510,7523,7799,7986,8034,16208,80642,80645,81100, | |  |
| **Week 28** | | | | | | | | | | | |
| 2 | 7.4 | | | | Partial Fractions | | Partial Fraction Decomposition |  | 7214,7604,7888,16533, | |  |
| 2 |  | | | | Review/ Chapter 7 Quiz | |  |  |  | |  |
| **Chapter 8: Analytic Geometry in Two and Three Dimensions** | | | | | | | | | | | |
| 1 | | 8.1 | | | Conic Sections and Parabolas | | Conic section, vertex, parabola, focus, vertex | [MA.912.A.9.1](http://www.floridastandards.org/Standards/PublicPreviewBenchmark491.aspx)  [MA.912.A.9.2](http://floridastandards.org/Standards/PublicPreviewBenchmark492.aspx?kw=)  [MA.912.A.9.3](http://www.floridastandards.org/Standards/PublicPreviewBenchmark493.aspx) | 7475,16526,81896,7732,8058,81847,  (SI) Parabola and Circle Equations  HS Math Geometry |  | |
| **Week 29** | | | | | | | | | | | |
| 1 | | 8.1 | | | Conic Sections and Parabolas Cont. | |  |  |  |  | |
| 2 | | 8.2 | | | Ellipses | | Eccentricity, foci, major axis, minor axis | [MA.912.A.9.1](http://www.floridastandards.org/Standards/PublicPreviewBenchmark491.aspx)[MA.912.A.9.2](http://floridastandards.org/Standards/PublicPreviewBenchmark492.aspx?kw=)  [MA.912.A.9.3](http://www.floridastandards.org/Standards/PublicPreviewBenchmark493.aspx) | 7635,7901,88596,8019,16535,81884,81885,81887,81894,81895,81903,81907,  (SI) Ellipses and Hyperbolas  HS Math Geometry |  | |
| 1 | | 8.3 | | | Hyperbolas | |  | [MA.912.A.9.1](http://www.floridastandards.org/Standards/PublicPreviewBenchmark491.aspx)  [MA.912.A.9.2](http://floridastandards.org/Standards/PublicPreviewBenchmark492.aspx?kw=)  [MA.912.A.9.3](http://www.floridastandards.org/Standards/PublicPreviewBenchmark493.aspx) | 7993,8003,81888,81892,81893,81897,  (SI) Ellipses and Hyperbolas  HS Math Geometry |  | |
| **Week 30** | | | | | | | | | | | |
| 1 | | 8.3 Cont. | | | Hyperbolas | |  |  |  |  | |
| 1 | | 8.4 | | | Translation and Rotation of Axes  (Exposure Only) | | Discriminant | [MA.912.A.9.1](http://www.floridastandards.org/Standards/PublicPreviewBenchmark491.aspx)  [MA.912.A.9.2](http://floridastandards.org/Standards/PublicPreviewBenchmark492.aspx?kw=)  [MA.912.A.9.3](http://www.floridastandards.org/Standards/PublicPreviewBenchmark493.aspx) | 7332,7642,7902, |  | |
| 3 | |  | | | Review | |  |  |  |  | |
|  | | | Test Chapter 8.1-8.4 (include review problems from chapter 1 – 7) | |  |  |  |  | |
| **Week 31** | | | | | | | | | | | |
| 3 | | 8.5 | | | | Polar Equations of Conics |  |  |  |  | |
| 1 | |  | | | | Quiz 8.5 |  |  |  |  | |
| **Chapter 9: Discrete Mathematics** | | | | | | | | | | | |
| 1 | | 9.2 | | | | The Binomial Theorem  (Review Pascal’s triangle) |  | [MA.912.A.4.12](http://floridastandards.org/Standards/PublicPreviewBenchmark461.aspx?kw=) | 166242,171509,7151,7177,7715,7961,7968,8039,16212,80708,82013,  (SI) Binomial Theorem  HS Math Algebra |  | |
| **Week 32** | | | | | | | | | | | |
| **FCAT Reading** | | | | | | | | | | | |
|  | | | | | | | | | | | |
| 1 | | | 9.2 | | | The Binomial Theorem  Cont. |  |  |  |  | |
| 2 | | | 9.4 | | | Sequences | Infinite/finite sequence, recursively, converge, diverge, arithmetic, geometric, common difference, common ratio | [MA.912.D.11.1](http://floridastandards.org/Standards/PublicPreviewBenchmark263.aspx?kw=)  [MA.912.D.11.3](http://floridastandards.org/Standards/PublicPreviewBenchmark263.aspx?kw=) | 7613,7892,19733,20267,35307,8358,16213,81962,81964,82003,81966,81992,16532, |  | |
| **Week 33** | | | | | | | | | | | |
| 2 | | | 9.5 | | | Series | Summation (Sigma) Notation, index, partial sum, infinite series | [MA.912.D11.2](http://floridastandards.org/Standards/PublicPreviewBenchmark264.aspx?kw=)  [MA.912.D11.4](http://floridastandards.org/Standards/PublicPreviewBenchmark266.aspx?kw=) | 7388,7796,81924,81932,16557,7142,7174,7617,7624,7632,7945,7952, |  | |
| 3 | | | 9.6 | | | Mathematical Induction |  | [MA.912.D.1.3](http://www.floridastandards.org/Standards/PublicPreviewBenchmark229.aspx) |  |  | |
| **Week 34** | | | | | | | | | | | |
| 2 | | |  | | | Review |  |  |  |  | |
| 1 | | |  | | | Chapter 9 test (include review problems from chapter 1 through 7) |  |  |  |  | |
| **Chapter 10: An Introduction to Calculus: Limits, Derivatives, and Integrals** | | | | | | | | | | | |
| **Days** | | | **Section** | | | **Topic** | **Vocabulary** | **Benchmarks** | **DW Item #s / Additional Resources** | **Date Completed** | |
| 2 | | | 10.1 | | | Limits and Motion: The Tangent Problem | Instantaneous Velocity,  Average Rate of Change, tangent line, derivative | [MA.912.C.1.1](http://www.floridastandards.org/Standards/PublicPreviewBenchmark176.aspx) | 16520, |  | |
| **Week 35** | | | | | | | | | | | |
| 5 | | | 10.1 | | | Limits and Motion: The Tangent Problem | Instantaneous Velocity,  Average Rate of Change, tangent line, derivative | [MA.912.C.1.1](http://www.floridastandards.org/Standards/PublicPreviewBenchmark176.aspx) | 16520,  (SI) Estimating Limits  (SI) Introduction to the Derivative  AP Calculus AB |  | |
| 0 | | | 10.2 | | | Limits and Motion: The Area Problem | Infinite limits |  |  |  | |
| **Week 36** | | | | | | | | | | | |
| 3 | | | 10.3 | | | More on Limits | One sided limits, infinite limits | [MA.912.C.1.1](http://www.floridastandards.org/Standards/PublicPreviewBenchmark176.aspx)  [MA.912.C.1.2](http://floridastandards.org/Standards/PublicPreviewBenchmark177.aspx?kw=)  [MA.912.C.1.3](http://floridastandards.org/Standards/PublicPreviewBenchmark177.aspx?kw=)  [MA.912.C.1.4](http://floridastandards.org/Standards/PublicPreviewBenchmark179.aspx?kw=)  [MA.912.C.1.5](http://floridastandards.org/Standards/PublicPreviewBenchmark180.aspx?kw=)  [MA.912.C.1.9](http://floridastandards.org/Standards/PublicPreviewBenchmark184.aspx?kw=)  [MA.912.C.1.10](http://floridastandards.org/Standards/PublicPreviewBenchmark185.aspx?kw=) | 16538,16536,7126,  (SI) Calculating Limits  AP Calculus AB |  | |
| 2 | | |  | | | Review |  |  |  |  | |
|  | | | Chapter 10 test (include review problems from chapter 1 through 9) |  |  |  |  | |
| **Week 37-39**   * Final Exam Review * Final Exams | | | | | | | | | | | |



**Final Exam**

|  |  |
| --- | --- |
| 9 | Review for final exam |
| 1 | Final exam |