Centerville High School Curriculum Mapping Pre-Calculus 1st Nine Weeks Damon Anderson

Chapter/ Lesson	Indiana Standard(s)	Key Questions	Resources/Activities	Vocabulary	Assessments
1/1	PC.F.1	How do you describe subsets of real numbers? How do you identify and evaluate functions and state their domains?	Textbook/Notes/ Graphing Calculator/ Cooperative Learning	Set-builder notation, interval notation, function, function notation, implied domain	A. Homework B. Quizzes C. Tests
1/2	PC.F.1 PC.F.6	How do you use graphs of functions to estimate function values and find domains, ranges, y-intercepts, and zeros of functions? How do you use symmetry and identify even and odd functions?	Textbook/Notes/ Graphing Calculator/ Cooperative Learning	Zeros, roots, line symmetry, point symmetry, even function, odd function	A. Homework B. Quizzes C. Tests
1/3	PC.F.1	How do you use limits to determine the continuity of function? How do you use limits to describe the end behavior of a function?		Continuous function, limit, discontinuous function	
1/4	PC.F.1	How do find intervals on which functions are increasing, constant or decreasing? How do you determine the average rate of change of a function?	Textbook/Notes/ Graphing Calculator/ Cooperative Learning	Increasing, decreasing, constant, minimum, maximum, extrema, average rate of change, secant line	A. Homework B. Quizzes C. Tests
1/5	PC.F.1	How do you identify, graph and describe parent functions? How do you identify and graph transformations of functions?	Textbook/Notes/ Graphing Calculator/ Cooperative Learning	Transformation, translation, reflection, dilation, parent square root, constant identity, quadratic, cubic, reciprocal, absolute value, step, greatest integer functions	A. Homework B. Quizzes C. Tests

1/6	PC.F.3	How do you add, subtract, multiply, and divide function? How do you find the composition of one function with another?	Textbook/Notes/ Graphing Calculator/ Cooperative Learning	composition	A. Homework B. Quizzes C. Tests
1/7	PC.F.4 PC.F.5	How do you use the horizontal line test to determine whether a function has an inverse function? How do you find inverse functions algebraically and graphically?	Textbook/Notes/ Graphing Calculator/ Cooperative Learning	Inverse relation, inverse function, one-to-one	A. Homework B. Quizzes C. Tests
2/1	PC.F.1	How do you graph and analyze power functions and radical functions? How do solve radical equations?	Textbook/Notes/ Graphing Calculator/ Cooperative Learning	Power function, monomial function, radical function, extraneous solutions	A. Homework B. Quizzes C. Tests
2/2	PC.EL.3	How do graph polynomial functions? How do you model real-world data with polynomial functions?	Textbook/Notes/ Graphing Calculator/ Cooperative Learning	Polynomial functions, leading coefficient test, leading term test, turning point, quadratic form, repeated zero, mulitplicity	A. Homework B. Quizzes C. Tests
2/3	PC.QPR.4	How do you divide using long division and synthetic division? How do you use the Remainder Theorem and the Factor Theorem?	Textbook/Notes/ Graphing Calculator/ Cooperative Learning	Synthetic division, remainder theorem, factor theorem	A. Homework B. Quizzes C. Tests
2/4	PC.QPR.5 PC.QPR.2 PC.QPR.3	How do you find real zeros of polynomial functions? How do find complex zeros of polynomial functions?	Textbook/Notes/ Graphing Calculator/ Cooperative Learning	Rational Zero Theorem, Fundamental Theorem of Algebra, Linear Factorization Theorem, complex conjugates	A. Homework B. Quizzes C. Tests
2/5	PC.QPR.6	How do you analyze and graph rational zeros? How do you solve rational equations?	Textbook/Notes/ Graphing Calculator/ Cooperative Learning	Rational function, vertical asymptote, horizontal asymptote, oblique asymptote, holes	A. Homework B. Quizzes C. Tests

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Unit/ Chapter/ Lesson	Indiana Standard(s)	Key Questions	Resources/Activities	Vocabulary	Assessments
3/1	PC.F.1 PC.EL.3	How do you evaluate, analyze, and graph exponential functions? How do you solve problems involving exponential growth and decay?	Textbook/Notes/ Graphing Calculator/ Cooperative Learning	Algebraic function, transcendental function, exponential function, natural base e, continuous compound interest	A. Homework B. Quizzes C. Tests
3/2	PC.EL.2	How do you evaluate expressions involving logarithms? How do you sketch and analyze graphs of logarithmic functions?	Textbook/Notes/ Graphing Calculator/ Cooperative Learning	Logarithmic function, logarithm, common logarithm, natural logarithm	A. Homework B. Quizzes C. Tests
3/3	PC.EL.1 PC.EL.2	How do you apply properties of logarithms? How do you apply the change of base formula?	Textbook/Notes/ Graphing Calculator/ Cooperative Learning	Change-of-base formula	A. Homework B. Quizzes C. Tests
3/4	PC.EL.2	How do you apply the one-to-one property of exponential functions and the one-to-one property of logarithmic functions when solving equations?	Textbook/Notes/ Graphing Calculator/ Cooperative Learning	Exponential, logarithmic	A. Homework B. Quizzes C. Tests
3/5	PC.F.2 PC.EL.4	How do you model data using exponential, logarithmic, and logistic functions? How do you linearize and analyze data?	Textbook/Notes/ Graphing Calculator/ Cooperative Learning	Logistic growth function, linearize	A. Homework B. Quizzes C. Tests
10/1	PC.SS.1 PC.SS.2 PC.SS.3	How do you identify different types of sequences? How do you use sigma notation to represent and calculate sums of series.	Textbook/Notes/ Graphing Calculator/ Cooperative Learning	Sequence, finite sequence, infinite sequence, finite series, infinite series, recursive	A. Homework B. Quizzes C. Tests

10/2	PC.SS.2 PC.SS.3	How do you find the nth term and arithmetic means of arithmetic sequences? How do you find sums of n terms of arithmetic series?	Textbook/Notes/ Graphing Calculator/ Cooperative Learning	Arithmetic sequence, common difference, arithmetic series	A. Homework B. Quizzes C. Tests
10/3	PC.SS.2 PC.SS.3 PC.SS.4	How do you find the nth term and geometric means of geometric sequences? How do you find sums of n terms and the sums of infinite geometric series?	Textbook/Notes/ Graphing Calculator/ Cooperative Learning	Geometric sequence, common ratio,	A. Homework B. Quizzes C. Tests
7/1	PC.CO.1 PC.CO.4 PC.QPR.1	How do you graph equations of parabolas? How do you write equations of parabolas?	Textbook/Notes/ Graphing Calculator/ Cooperative Learning	Conic sections, parabola, focus, directrix, axis of symmetry, vertex	A. HomeworkB. QuizzesC. Tests
7/2	PC.CO.2 PC.CO.4	How do you graph equations of ellipses? How do you graph equations of circles? How do you write equations of ellipses? How do you write equations of circles?	Textbook/Notes/ Graphing Calculator/ Cooperative Learning	Ellipse, foci, major axis, minor axis, center, vertices, co-vertices, eccentricity, radius	A. Homework B. Quizzes C. Tests
7/3	PC.CO.3 PC.CO.4	How do you graph equations of hyperbolas? How do you write equations of hyperbolas?	Textbook/Notes/ Graphing Calculator/ Cooperative Learning	Hyperbola, transverse axis, conjugate axis, eccentricity	A. Homework B. Quizzes C. Tests