



JC Schools Pre-Calculus Yearly Standards

Unit	Priority Standards	Supporting Standards
Unit 1 Expressions, Equations, and Inequalities 23 Days	10-12.PC.LO.02 Simplify, add, subtract, multiply, and divide rational expressions 10-12.PC.LO.03 Solve linear, quadratic, absolute value, and rational equations & inequalities 10-12.PC.LO.25 Solve linear and nonlinear system of equations 10-12.PC.LO.58 State restrictions and identify graphical implications 10-12.PC.LO.59 Solve polynomials and rational equations and inequalities	10-12.PC.LO.01 Evaluate and simplify rational exponents, and radicals 10-12.PC.LO.04 Evaluate square roots using i , simplify powers of i , add, subtract, multiply, & divide complex numbers
Unit 2 Relations and Functions 23 Days	10-12.PC.LO.05 Apply distance and midpoint formulas 10-12.PC.LO.06 Write equations of lines and circles and sketch their graphs 10-12.PC.LO.07 Identify functions and find the domain & range of functions in all forms and sketch the graph of functions	10-12.PC.LO.16 Find and verify inverse functions

	10-12.PC.LO.08 Evaluate and graph piecewise defined functions 10-12.PC.LO.09 Sketch functions using the vertical, horizontal, & reflective translations and stretching & compressing 10-12.PC.LO.12 Add, subtract, multiply, & divide functions and find composite functions & function values 10-12.PC.LO.60 Evaluate composite functions at a given domain 10-12.PC.LO.61 Rewrite absolute value functions as piecewise functions	
Unit 3 Rational and Polynomial Functions 24 Days	10-12.PC.LO.03 Solve linear, quadratic, absolute value, and rational equations & inequalities 10-12.PC.LO.13 Graph higher degree polynomial functions 10-12.PC.LO.14 Divide polynomials by synthetic division and find zeros of polynomial functions by the Rational Root Theorem 10-12.PC.LO.15 Find intercepts & asymptotes and graph rational functions 10-12.PC.LO.09 Sketch functions using the vertical, horizontal, & reflective translations and stretching & compressing	10-12.PC.LO.10 Sketch the graph of quadratic functions using the vertex and intercepts 10-12.PC.LO.11 Find the minimum and maximum values of quadratic functions 10-12.PC.LO.62 Write quadratic functions using the vertex and intercepts 10-12.PC.LO.63 Use the Possible Rational Root Theorem to identify possible zeros and synthetic division to verify 10-12.PC.LO.64 Interpret the graphical implications of zeros

	10-12.PC.LO.07 Identify functions and find the domain & range of functions in all forms and sketch the graph of functions 10-12.PC.LO.59 Solve polynomials and rational equations and inequalities	
Unit 4 Exponential and Logarithmic Functions 24 Days	10-12.PC.LO.07 Identify functions and find the domain & range of functions in all forms and sketch the graph of functions 10-12.PC.LO.09 Sketch functions using the vertical, horizontal, & reflective translations and stretching & compressing 10-12.PC.LO.17 Graph exponential functions 10-12.PC.LO.20 Graph logarithmic functions 10-12.PC.LO.21 Apply the properties of Logarithms 10-12.PC.LO.22 Evaluate natural & common logarithms using calculator and apply these functions 10-12.PC.LO.24 Solve exponential and logarithmic equations	10-12.PC.LO.18 Identify exponential growth & decay functions, and apply natural exponential function 10-12.PC.LO.19 Evaluate logarithms 10-12.PC.LO.23 Evaluate logarithmic values using the change of base formula
Unit 5 Unit Circle Trigonometry	10-12.PC.LO.26 Draw angles in standard position & use degree measure of angle	10-12.PC.LO.27 Find coterminal angles 10-12.PC.LO.28 Use the radian measure of angle and convert radian to

14 Days	10-12.PC.LO.32 Use trigonometric function values of special angles (30-45-60) 10-12.PC.LO.35 Use a unit circle to find the sine and cosine values of quadrantal angles 10-12.PC.LO.36 Find the values of trigonometric functions of angles in all quadrants using the reference angle method 10-12.PC.LO.66 Evaluate all trigonometric functions at the familiar unit circle angles and their coterminal angles	degree and degree to radian measures 10-12.PC.LO.29 Find arc length, angular & linear speeds of rotating objects 10-12.PC.LO.34 Find trigonometric function values using calculator in degree & radian modes 10-12.PC.LO.67 Identify and use reference angles
Unit 6 Trigonometric Graphs and Inverses 15 Days	10-12.PC.LO.38 Sketch the graph of all trigonometric functions 10-12.PC.LO.39 Find the amplitude, period, & phase-shift and graph sine, cosine, and tan functions 10-12.PC.LO.68 Find the domain and range of trigonometric functions 10-12.PC.LO.69 Use amplitude, period, and phase-shift to identify transformation of trigonometric functions 10-12.PC.LO.70 Write the equations of sinusoidal functions	10-12.PC.LO.47 Find the inverse of sine, cosine, and tangent functions 10-12.PC.LO.71 Evaluate inverse functions of sine, cosine, and tangent using the unit circle and a calculator
Unit 7	10-12.PC.LO.33 Apply all fundamental identities and verify trigonometric	10-12.PC.LO.43 Apply the addition and subtraction Formulas for sine,

Trigonometric Identities 19 Days	identities 10-12.PC.LO.42 Solve trigonometric equations	cosine, and tangent functions 10-12.PC.LO.44 Apply the double angle formulas for sine, cosine, and tangent functions 10-12.PC.LO.45 Apply the half-angle formulas for sine, cosine, and tangent functions 10-12.PC.LO.72 Apply the pythagorean, reciprocal, and quotient identities to simplify trigonometric expressions
Unit 8 Solving Triangles 16 Days	10-12.PC.LO.37 Find trigonometric function values of acute angles and solutions of simple trigonometric equations using calculator 10-12.PC.LO.48 Apply the Law of Sines and Cosines in solving oblique triangles and in applied problems	10-12.PC.LO.30 Apply the Pythagorean theorem 10-12.PC.LO.31 Find all trigonometric function values of an acute angle of a right triangle 10-12.PC.LO.40 Solve right triangles and related applied problems 10-12.PC.LO.73 Find the area of non-right triangles
Unit 9 Conics (Mini- Unit) 10 Days	10-12.PC.LO.06 Write equations of lines and circles and sketch their graphs 10-12.PC.LO.74 Write equations of implicit relations and sketch the graphs	