CONNEAUT AREA SCHOOL DISTRICT		
MATHEMATICS		
UNIT OF STUDY: Zeros of polynomial functions, rational functions and nonlinear inequalities	COURSE/GRADE: Pre Calculus	# WEEKS: 5
Module 4		

Focus (emphasis) Standards/EC:	Technology/manipulatives:
Quadratic functions and models	I pad
Polynomial functions of higher degree	Smart board
Synthetic division	Electronic text book
Zeros of polynomial functions	calculator
Rational functions	Ruler
Nonlinear Inequalities	3 D figures
	Nets
refer to PA standards	Dice
	CAD program
	Online videos for reinforcement
	Studyzone.org
	Studyisland
	Firstinmath
	Graph paper
Important (reinforced) Standards/EC:	Reading, writing, speaking strategies:
use graphing calculator/technology	Word problems, journal writing, bell ringers, partner sharing, think aloud, paraphrasing, board work, sharing out to class, note taking skills development
solve, sketch polynomial, rational and radical equations/inequalities	
represent statistical data graphically for use in problem solving and analysis	
graph, determine the components, and evaluate a function	
sketch functions by translation	
find arithmetic, compositions, and inverses of functions	
find appropriate domains	
use factoring, synthetic division, and long division to determine zeroes of polynomials	

graph to determine domain, intercepts, and asymptotes	
Vocabulary: fundamental theorem of Algebra, linear factorization, rational zero, conjugate pairs, factors of polynomials, upper/lower bound, rational function, horizontal/vertical asymptotes, slant asymptotes, polynomial inequality	Questioning and discussion techniques: Real world problems/applications, bill ringers, exit tickets, journals, Frayer model, small group tasks
Real life application: graphic design, tool design, optics, engineering, architecture, manufacturing, amusement parks, gears, bikes, clocks, space probe, bridge design, data analysis, population statistics, college enrollment, cost/revenue/profit, digital music sales, fluid flow, fuel use, diesel mechanics, path of diver, home prices, advertising, recycling Career connections: www.xpmath.com/careers/lite.php	Performance assessment: quiz, test, Studyisland, performance projects, homework, group discussion, self-generated math labs
Computation: Two step algebraic equations Ratio and proportions Slope, distance, midpoint Equations of lines Difference quotient Various polynomial equations and manipulations Sketching polynomials Cost benefit	Accommodations/adaptations: Limiting , homework problems, guided problem solving, peer groups, tutorial time, needs based on IEP
SAS Module Resources: http://www.pdesas.org/standard/PACore http://www.corestandards.org/wp-content/uploads/Math_Standards.pdf http://www.education.pa.gov/K-12/Pages/default.aspx http://achievethecore.org/dashboard/300/search/1/2/9/10/11/12	