Course: Algebra II

Quarter 2: Equations and Inequalities **Zanesville City**

CLUSTER	STANDARD
Create equations that describe numbers or relationships. A-**CED**.1-4	A-CED.1 Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.
	A-CED.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
	A-CED.3 Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context.
	A-CED.4 Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.
Use complex numbers in polynomial identities and equations. N-**CN**.7-9	N-CN.7 Solve quadratic equations with real coefficients that have complex solutions.
Understand solving equations as a process of reasoning and explain the reasoning. A-**REI**.2	A-REI.2 Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise
Understand the relationship between zeros and factors of polynomials. A-**APR**.2,3	A-APR.2 Know and apply the Remainder Theorem: For a polynomial p(x) and a number a, the remainder on division by x – a is p(a), so p(a) = 0 if and only if (x – a) is a factor of p(x).
	A-APR.3 Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.
Represent and solve equations and inequalities graphically. A-***REI***.11	A-*REI*.11 Explain why the *x*-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.*