Unit 2: Extending the Number System

CCSS	4 – Mastery	3 – Proficient	2 - Basic	1 – Below Basic	0 – No Evidence
Properties of rational exponents (N.RN.1)	Can extend thinking beyond the standard, including tasks that may involve one of the following: • Designing • Connecting • Synthesizing • Applying • Justifying • Critiquing • Analyzing • Creating • Proving	**Explain** how a radical expression can be represented by rational exponents	Show how a radical expression can be represented by **rational** exponents	Show how an expression can be represented by **integer** exponents	Little evidence of reasoning or application to solve the problem Does not meet the criteria in a level 1
Rational exponents and radical expressions (N.RN.2)		Convert between rational exponents and radical expressions Use the properties of exponents to rewrite (simplify) radical expressions	Convert between rational exponents and radical expressions Use the properties of exponents to rewrite (simplify) radical expressions **(limited to square roots and cube roots)**	Convert between rational exponents and radical expressions	
Irrational and rational numbers (N.RN.3)		Justify **all** of the following: • When adding or multiplying two rational numbers the result is a rational number • When adding a rational number and an irrational number the result is irrational • Multiplying a nonzero rational number and an irrational number the result is irrational	Justify **two** of the following: • When adding or multiplying two rational numbers the result is a rational number • When adding a rational number and an irrational number the result is irrational • Multiplying a nonzero rational number and an irrational number the result is irrational	Justify **one** of the following: • When adding or multiplying two rational numbers the result is a rational number • When adding a rational number and an irrational number the result is irrational • Multiplying a nonzero rational number and an irrational number the result is irrational	
Operating on polynomials (A.APR.1)		Add, subtract, and multiply polynomials **all within the same problem**	Add, subtract, **and multiply** polynomials	**Add and subtract** polynomials	
Represent parts as a single entity (A.SSE.1b)		Interpret the growth rate **and the growth factor** of exponential functions in context of the situation	**Interpret** the growth rate of exponential functions **in context of the situation**	Interpret the growth rate of exponential functions in context of the situation	
Use structure to identify (A.SSE.2)		Rewrite expressions in different equivalent forms by: • Factoring using greatest common factors • Factor using a difference of two squares • Factor a trinomial • Factor a trinomial with more than 2 factors	Rewrite expressions in different equivalent forms by **(3 out of 4)**: • Factoring using greatest common factors • Factor using a difference of two squares • Factor a trinomial • Factor a trinomial with more than 2 factors	Rewrite expressions in different equivalent forms by **(2 out of 4)**: • Factoring using greatest common factors • Factor using a difference of two squares • Factor a trinomial • Factor a trinomial with more than 2 factors	
Definition of complex number (N.CN.1) Operations with i (N.CN.2)		Use the relation i^2= –1 and the properties of operations to add, subtract **and multiply** complex numbers and write the solution in standard form	Use the relation i^2= –1 and the properties of operations to add, subtract and multiply complex numbers and **write the solution in standard form**	Use the relation i^2= –1 and the properties of operations to add and subtract complex numbers, **but does not write all solutions in standard form**	