Mathematics Grade 9
Number (N)

Outcome	1 - Beginning The student is having difficulty demonstrating an understanding of the concept.	2 – Approaching The student is developing an understanding of the concept.	3 – Meeting The student consistently demonstrates an understanding of the concept or has achieved the concept.	4- Exemplary The student independently demonstrates an in-depth understanding of the concept, and consistently applies this knowledge to new situations.
N9.1 **I can demonstrate (concretely, pictorially, and symbolically) understanding of powers with integral bases (excluding base 0) and whole number exponents including:** ○ **representing using powers** ○ **evaluating powers** ○ **powers with an exponent of zero** ○ **solving situational questions.** **[C, CN, PS, R, T]**	• I can **label the parts of a power.**	• I can **evaluate powers with integral bases.**	• I can explain **AND apply** the exponent laws for **multiplication, division and raising a power** to a power, **AND** evaluate the simplification.	• I can **simplify and solve** multiple step problems involving more than one exponent law, and explain my strategy.
	• With help, I can represent exponents using repeated multiplication, and evaluate.	• I can **convert** between repeated multiplication **AND** exponential form, and evaluate.	• I can evaluate powers with an exponent of 0	• I can **explain why the value of any power with exponent 0 will equal 1** using exponent laws and repeated multiplication to
	• **With help**, I **can take steps to** evaluate a one-step situational questions involving exponents.	• I **can take steps to** evaluate a one-step situational questions involving exponents.	• I can **solve multi-step situational questions** involving exponents.	• I can solve multi-step situational questions involving exponents **and explain my strategy.**
Comments				

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N9.2 **I can demonstrate understanding of rational numbers including:** ○ **comparing and ordering** ○ **relating to other types of numbers** ○ **solving situational questions.** **[C, CN, PS, R, T, V]**	• **With help**, I can compare **AND** order a set of rational numbers from the same number system.	• I can compare **AND** order a set of rational numbers from the same number system.	• I can compare **AND** order a set of rational numbers in different forms, including fractions, decimals and integers.	• I can compare and order a set of rational numbers **and determine a number that fits between two numbers.**
	• **With help**, I can relate a rational number in one form to a rational number in a different form.	• I can relate **some** rational numbers in different forms.	• I can **create a representation depicting how different kinds of rational numbers are related to each other**.	• I can **convert rational numbers** from one form to another (ex. Convert decimals to fractions.)
	• **With help,** I can solve a single-step situational question involving operations with rational numbers	• I can solve **a single-step situational question** involving operations with rational numbers.	• I can **solve situational questions** involving operations with rational numbers.	• I can solve **multi-step situational questions** involving operations with rational numbers and explain my strategy.
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N9.3 **Extend understanding of square roots to include the square root of positive rational numbers.** **[CN, ME, R, T, V]**	• I can determine the square root of a rational number that is a whole number and a perfect square **without the use of technology**.	• I can determine the **square root of a rational number that is a perfect square without the use of technology**.	• I can determine the **approximate** square root of a rational number that is a whole number but not a perfect square, **without the use of technology.**	• I can determine the **approximate** square root of a rational number that **is not a whole number or a perfect square**, **without the use of technology.**
	• I can explain, either in words or pictorially, **how a given square and its root are related.**	• Given a **whole number, I can determine the rational number that is its root**.	• Given **a rational number that is not a whole number, I can determine the rational number that is its root**.	• Given a rational number, I can determine the rational number that is its root, **without the use of technology.**
Comments:				