

BIG IDEAS

Proportional comparisons can be made among triangles and angles on a coordinate plane, using trigonometry.

The meaning of each **operation**, including rational exponents and radicals, extends to algebraic expressions.

Functions allow us to model contextualized situations, including financial ones.

Operations between algebraic expressions equations are **connected** and allow us to make meaning through abstract thinking.

Learning Standards

Curricular Competencies	Content
<p><i>Students are expected to be able to do the following:</i></p> <p>Reasoning and analyzing</p> <ul style="list-style-type: none"> • Use reasoning and logic to analyze and apply mathematical ideas • Estimate reasonably • Demonstrate fluent and flexible thinking of number • Use tools or technology to analyze relationships and test conjectures • Model mathematics in contextualized experiences <p>Understanding and solving</p> <ul style="list-style-type: none"> • Develop, demonstrate, and apply conceptual understanding of mathematical ideas • Visualize to explore and illustrate mathematical concepts and relationships • Apply flexible strategies to solve problems in both abstract and contextualized situations • Engage in problem-solving experiences that are connected to place, story, cultural practices, and perspectives relevant to local First Peoples communities, the local community, and other cultures <p>Communicating and representing</p> <ul style="list-style-type: none"> • Communicate mathematical thinking in many ways • Use mathematical vocabulary and language to contribute to mathematical discussions • Represent mathematical ideas in a variety of ways • Explain and justify mathematical ideas 	<p><i>Students are expected to know the following:</i></p> <ul style="list-style-type: none"> • operations on powers with rational exponents and radicals • real number system • exponential functions • financial literacy: investments and loans • polynomial factoring of the form: $ax^2 + bx + c$, $a^2x^2 - b^2y^2$ • rational expressions and equations • quadratic functions and quadratic equations • trigonometry, including non-right triangles and angles in standard position

Learning Standards (continued)

Curricular Competencies	Content
<p>Connecting and reflecting</p> <ul style="list-style-type: none"> • Reflect on mathematical thinking • Use mathematics to support personal choices • Connect mathematical concepts to each other and to other areas and personal interests • Incorporate First Peoples worldviews and perspectives to make connections to mathematical concepts 	

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