

BIG IDEAS

Many functions are related through inverse operations.

Analyzing the characteristics of functions allows us to solve equations, and model and understand relationships.

Transformations of shapes extend to functions in all of their representations.

Geometrical thinking and visualization can be used to explore conics and functions.

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"> • logarithmic functions and equations • exponential equations • sequences and series • operations on logarithms • polynomial functions and equations • transformations of functions, including $y = \sqrt{x}$, $y = x$, $y = \frac{1}{x}$ • conics • rational functions • trigonometric functions and equations with real numbers • trigonometric identities

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 	

DRAFT