

BIG IDEAS

Using **inverses** is the foundation of solving equations and can be extended to relationships between functions.

Understanding the characteristics of families of **functions** allows us to model and understand relationships and to build connections between classes of functions.

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

Learning Standards

Curricular Competencies	Content
<p><i>Students are expected to do the following:</i></p> <p>Reasoning and modelling</p> <ul style="list-style-type: none"> • Develop thinking strategies to solve puzzles and play games • Explore, analyze, and apply mathematical ideas using reason, technology, and other tools • Estimate reasonably and demonstrate fluent, flexible, and strategic thinking about number • Model with mathematics in situational contexts • Think creatively and with curiosity and wonder when exploring problems <p>Understanding and solving</p> <ul style="list-style-type: none"> • Develop, demonstrate, and apply conceptual understanding of mathematical ideas through play, story, inquiry, and problem solving • Visualize to explore and illustrate mathematical concepts and relationships • Apply flexible and strategic approaches to solve problems • Solve problems with persistence and a positive disposition • Engage in problem-solving experiences connected with place, story, cultural practices, and perspectives relevant to local First Peoples communities, the local community, and other cultures 	<p><i>Students are expected to know the following:</i></p> <ul style="list-style-type: none"> • transformations of functions and relations • exponential functions and equations • geometric sequences and series • logarithms: operations, functions, and equations • polynomial functions and equations • rational functions • trigonometry: functions, equations, and identities

Learning Standards (continued)

Curricular Competencies	Content
<p>Communicating and representing</p> <ul style="list-style-type: none"> • Explain and justify mathematical ideas and decisions in many ways • Represent mathematical ideas in concrete, pictorial, and symbolic forms • Use mathematical vocabulary and language to contribute to discussions in the classroom • Take risks when offering ideas in classroom discourse <p>Connecting and reflecting</p> <ul style="list-style-type: none"> • Reflect on mathematical thinking • Connect mathematical concepts with each other, other areas, and personal interests • Use mistakes as opportunities to advance learning • Incorporate First Peoples worldviews, perspectives, knowledge, and practices to make connections with mathematical concepts 	