

## BIG IDEAS

**Proportional comparisons** can be made among right triangles, using trigonometry.

The meaning of each **operation**, including powers, extends to algebraic expressions.

Rate of change is an essential attribute of **linear relations**, and has meaning in the different representations, including equations.

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

Analyzing simulations and **data** allows us to notice trends and relationships.

## Learning Standards

Curricular Competencies	Content
<p><i>Students are expected to be able to do the following:</i></p> <p><b>Reasoning and analyzing</b></p> <ul style="list-style-type: none"> <li>Use <b>reasoning and logic</b> to analyze and apply mathematical ideas</li> <li><b>Estimate</b> reasonably</li> <li>Demonstrate <b>fluent and flexible thinking</b> of number</li> <li>Use tools or technology to analyze relationships and test conjectures</li> <li><b>Model</b> mathematics in contextualized experiences</li> </ul> <p><b>Understanding and solving</b></p> <ul style="list-style-type: none"> <li>Develop, demonstrate, and apply <b>conceptual understanding</b> of mathematical ideas</li> <li><b>Visualize</b> to explore and illustrate mathematical concepts and relationships</li> <li>Apply <b>flexible strategies</b> to solve problems in both abstract and contextualized situations</li> <li>Engage in problem-solving <b>experiences</b> that are connected to place, story, cultural practices, and perspectives relevant to local First Peoples communities, the local community, and other cultures</li> </ul> <p><b>Communicating and representing</b></p> <ul style="list-style-type: none"> <li>Communicate mathematical thinking in <b>many ways</b></li> <li>Use mathematical vocabulary and language to contribute to mathematical <b>discussions</b></li> <li><b>Represent</b> mathematical ideas in a variety of ways</li> <li>Explain and justify mathematical ideas</li> </ul>	<p><i>Students are expected to know the following:</i></p> <ul style="list-style-type: none"> <li>operations on <b>powers</b> with integral exponents</li> <li><b>relationships</b> among data, graphs, and situations</li> <li><b>linear relations</b>, including slope and equations of lines</li> <li>solving <b>systems</b> of linear equations</li> <li><b>multiplication</b> of polynomial expressions</li> <li>polynomial <b>factoring</b></li> <li>primary trigonometric ratios</li> <li><b>experimental probability</b></li> <li><b>financial literacy:</b> gross and net pay</li> </ul>

Learning Standards (continued)

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

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