

## Mathematics – STEM Readiness

<p><b>Arithmetic and Algebra of Complex Numbers</b></p>	<p><b>Polynomial, Rational, and Radical Relationships</b></p>
<ul style="list-style-type: none"> <li>Understand that the arithmetic and algebra of expressions involving rational numbers is governed by the same rules as the arithmetic and algebra of real numbers.</li> </ul>	<ul style="list-style-type: none"> <li>Derive the formula for the sum of a geometric series, and use the formula to solve problems. (e.g., Calculate mortgage payments.)</li> </ul>
<p><b>Probability for Decisions</b></p>	<p><b>Trigonometry of General Triangles</b></p>
<ul style="list-style-type: none"> <li>Make inferences and justify conclusions from sample surveys, experiments, and observational studies.</li> </ul>	<ul style="list-style-type: none"> <li>Apply knowledge of the Law of Sines and the Law of Cosines to determine distances in realistic situations. (e.g., Determine heights of inaccessible objects.)</li> </ul>
<p><b>Functions and Modeling</b></p>	
<ul style="list-style-type: none"> <li>Analyze real-world situations using mathematics to understand the situation better and optimize, troubleshoot, or make an informed decision. (e.g., Estimate water and food needs in a disaster area, or use volume formulas and graphs to find an optimal size for an industrial package.)</li> </ul>	