

**Achievement Chart – Grades 11 and 12, Mathematics**

<b>Categories</b>	<b>50–59% (Level 1)</b>	<b>60–69% (Level 2)</b>	<b>70–79% (Level 3)</b>	<b>80–100% (Level 4)</b>
<b>Knowledge/ Understanding</b>	<b>The student:</b>			
– understanding concepts	– demonstrates limited understanding of concepts	– demonstrates some understanding of concepts	– demonstrates considerable understanding of concepts	– demonstrates thorough understanding of concepts
– performing algorithms	– performs only simple algorithms accurately by hand and by using technology	– performs algorithms with inconsistent accuracy by hand, mentally, and by using technology	– performs algorithms accurately by hand, mentally, and by using technology	– selects the most efficient algorithm and performs it accurately by hand, mentally, and by using technology
<b>Thinking/Inquiry/ Problem Solving</b>	<b>The student:</b>			
– reasoning	– follows simple mathematical arguments	– follows arguments of moderate complexity and makes simple arguments	– follows arguments of considerable complexity, judges the validity of arguments, and makes arguments of some complexity	– follows complex arguments, judges the validity of arguments, and makes complex arguments
– applying the steps of an inquiry/problem-solving process (e.g., formulating questions; selecting strategies, resources, technology, and tools; representing in mathematical form; interpreting information and forming conclusions; reflecting on the reasonableness of results)	– applies the steps of an inquiry/problem-solving process with limited effectiveness	– applies the steps of an inquiry/problem-solving process with moderate effectiveness	– applies the steps of an inquiry/problem-solving process with considerable effectiveness	– applies the steps of an inquiry/problem-solving process with a high degree of effectiveness and poses extending questions
<b>Communication</b>	<b>The student:</b>			
– communicating reasoning orally, in writing, and graphically	– communicates with limited clarity and limited justification of reasoning	– communicates with some clarity and some justification of reasoning	– communicates with considerable clarity and considerable justification of reasoning	– communicates concisely with a high degree of clarity and full justification of reasoning
– using mathematical language, symbols, visuals, and conventions	– infrequently uses mathematical language, symbols, visuals, and conventions correctly	– uses mathematical language, symbols, visuals, and conventions correctly some of the time	– uses mathematical language, symbols, visuals, and conventions correctly most of the time	– routinely uses mathematical language, symbols, visuals, and conventions correctly and efficiently
<b>Application</b>	<b>The student:</b>			
– applying concepts and procedures relating to familiar and unfamiliar settings	– applies concepts and procedures to solve simple problems relating to familiar settings	– applies concepts and procedures to solve problems of some complexity relating to familiar settings	– applies concepts and procedures to solve complex problems relating to familiar settings; recognizes major mathematical concepts and procedures relating to applications in unfamiliar settings	– applies concepts and procedures to solve complex problems relating to familiar and unfamiliar settings

*Note:* A student whose achievement is below 50% at the end of a course will not obtain a credit for the course.