

# ALGEBRA 2

## Proficiency Scale: Polynomial Functions

**Essential Learning Target:** I can find the roots/zeros of a polynomial, state its complete factorization, and make a graph showing zeros and end behavior.

### Scoring Guidelines

SCORE 4.0	<p>In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> I can <b>factor a 1+ degree</b> and find all its key features.</li> </ul>												
SCORE 3.0	<p>The student will:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> I can find all complex roots/zeros of a polynomial, state its complete factorization.</li> </ul> <p>The student exhibits no major errors or omissions.</p>												
SCORE 2.0	<p>There are no major errors or omissions regarding the simpler details and processes as the student:</p> <p>Recognizes or recalls specific terminology as:</p> <table style="width: 100%; border: none;"> <tr> <td><input type="checkbox"/> Degree</td> <td><input type="checkbox"/> Rational Zeros</td> <td><input type="checkbox"/> End Behavior</td> </tr> <tr> <td><input type="checkbox"/> Polynomial</td> <td><input type="checkbox"/> Constant Term</td> <td><input type="checkbox"/> Multiplicity</td> </tr> <tr> <td><input type="checkbox"/> Roots/Zeros/x-intercepts</td> <td><input type="checkbox"/> Remainder Theorem</td> <td><input type="checkbox"/> Complex Conjugate</td> </tr> <tr> <td><input type="checkbox"/> Leading Coefficient</td> <td><input type="checkbox"/> Remainder</td> <td><input type="checkbox"/> Complete Factorization</td> </tr> </table> <p>Performs basic processes, such as:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> I can classify a polynomial by degree and number of terms and write it in standard form.</li> <li><input type="checkbox"/> I can simplify an expression involving monomials and polynomials.</li> <li><input type="checkbox"/> I can identify the end behavior of a polynomial using the degree and the leading coefficient.</li> <li><input type="checkbox"/> I can factor a polynomial using GCF, grouping, slip &amp; slide, etc...</li> <li><input type="checkbox"/> I can determine the multiplicity of a zero and its effect on the graph.</li> <li><input type="checkbox"/> I can write a polynomial in standard form given its zeros and their multiplicities.</li> <li><input type="checkbox"/> I can identify key features of a polynomial given its graph.</li> </ul>	<input type="checkbox"/> Degree	<input type="checkbox"/> Rational Zeros	<input type="checkbox"/> End Behavior	<input type="checkbox"/> Polynomial	<input type="checkbox"/> Constant Term	<input type="checkbox"/> Multiplicity	<input type="checkbox"/> Roots/Zeros/x-intercepts	<input type="checkbox"/> Remainder Theorem	<input type="checkbox"/> Complex Conjugate	<input type="checkbox"/> Leading Coefficient	<input type="checkbox"/> Remainder	<input type="checkbox"/> Complete Factorization
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**I can divide using long division.**