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| **LG #** | **P01** | **Standards:** | **A-APR.3.4, A-APR.3.5, N-CN.3.9** |
| **4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond instruction to the standard.****The student will be able to:*** Apply the Binomial Theorem to expand a complex expression.

**No major errors or omissions regarding the score 4.0 content.** |
| **3.5** | In addition to 3.0, in-depth inferences and applications with partial success. |
| **3.0** | **Students will be able to use polynomial identities to solve mathematical problems, including the Fundamental Theorem of Algebra.****The student will be able to:*** Prove polynomial identities and use them to describe numerical relationships(A-APR.3.4)
* Know and apply the Binomial Theorem for the expansion of $\left(x+y\right)^{n}$ in powers of x and y for a positive integer n (A-APR.3.5)
* Show that the Fundamental Theorem of Algebra is true for quadratic polynomials (N-CN.3.9)

**No major errors or omissions regarding the score 3.0 content (simple or complex).** |
| **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of 3.0 content. |
| **2.0** | **The student recognizes and describes specific terminology such as:**

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| --- | --- | --- |
| * Identities
 | * Coefficients
 | * Polynomials
 |
| * Factorials
 | * Pascal’s Triangle
 | * Fundamental Theorem of Algebra
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**The student will be able to:*** Prove polynomial identities (examples: $x^{2}-y^{2}=(x-y)(x+y)$ using the distributive property, $(x-y)^{2}=x^{2}-2xy+y^{2}$ from$(x+y)^{2}$ = $x^{2}+2xy+y^{2}$ by replacing y with negative y (A-APR.3.4)
* Create Pascal’s Triangle using patterns (A-APR.3.5)
* Create Pascal’s Triangle using combinations and factorials (A-APR.3.5)
* Know the Fundamental Theorem of Algebra (N-CN.3.9)
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| **1.5** | Partial knowledge of the score 2.0 content, but major errors or omissions regarding score 3.0 content. |
| **1.0** | With partial understanding of some of the simpler details and processes and some of the more complex ideas and processes. |
| **0.5** | With help, a partial understanding of some of the simpler details and processes and some of the more complex ideas and processes. |
| **0.0** | Even with help, no understanding or skill is demonstrated |