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| --- | --- | --- | --- |
| **LG #** | **A111** | **Standards:** | **N-RN.1.1, N-RN.1.2, N-RN.2.3, N-Q.1.1, N-Q.1.2, N-Q.1.3** |
| **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:*** Develop a method to simplify exponents when the outcome is not a rational number.

**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 properties of rational exponents and apply properties of numbers to rational and irrational numbers****The student will be able to:*** [Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values. (N-RN.1.1)](http://www.cpalms.org/Public/PreviewResource/Preview/69673)
* [Use notation for radicals in terms of rational exponents. For example, $\sqrt{16}=\left(16\right) ^{1/2}$. (N-RN.1.1)](http://www.cpalms.org/Public/PreviewResource/Preview/69761)
* Rewrite expressions involving rational exponents using the properties of exponents. (N-RN.1.2)
* [Rewrite expressions involving radicals using the properties of exponents.](http://www.cpalms.org/Public/PreviewResource/Preview/69872) ([N-RN.1.2](http://www.cpalms.org/Public/PreviewResource/Preview/69812))
* [Convert and interpret units of measurement in multistep problems (dimensional analysis) and formulas. (N-Q.1.1)](http://www.cpalms.org/Public/PreviewResource/Preview/69359)
* [Interpret graphs, tables and word problems to define equations to represent real world context situations.](http://www.cpalms.org/Public/PreviewResource/Preview/69389) ([N-Q.1.2](http://www.cpalms.org/Public/PreviewResource/Preview/69858))
* [Identify correct level of precision appropriate to limitations on units as it relates to real world measurement (significant digits).](http://www.cpalms.org/Public/PreviewResource/Preview/69509) ([N-Q.1.3](http://www.cpalms.org/Public/PreviewResource/Preview/69618))

**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:**

|  |  |  |
| --- | --- | --- |
| * Rational Exponents
 | * Radicals
 | * Rational Number
 |
| * Irrational Number
 | * Significant Digit (figure)
 | * Precision
 |
| * Properties of Exponents
 |  |  |

**The student will be able to:*** Explain why the [sum](http://www.cpalms.org/Public/PreviewResource/Preview/70526) or [product](http://www.cpalms.org/Public/PreviewResource/Preview/70510) of two rational numbers is rational. (N-RN.2.3)
* [Explain that the sum of a rational number and an irrational number is irrational. (N-RN.2.3)](http://www.cpalms.org/Public/PreviewResource/Preview/70488)
* [Explain that the product of a nonzero rational number and an irrational number is irrational. (N-RN.2.3)](http://www.cpalms.org/Public/PreviewResource/Preview/70477)
* [Choose and interpret the scale and the origin in graphs and data displays. (N-Q.1.1)](http://www.cpalms.org/Public/PreviewResource/Preview/69363)
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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 |