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| **LG#A211** |  | **Standards:** | **F-TF.1.1, F-TF.1.2, F-TF.2.5, F-TF.3.8** |
| **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:**   * Construct a trigonometric function to model a situation given the amplitude, midline, and frequency or period. * Construct an argument for why the right triangle definition of sine and cosine does not allow negative values, while the unit circle does.   **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 model periodic phenomena using the unit circle and trigonometric functions. Prove and apply trigonometric identities.**  **The student will be able to:**   * Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle. (F-TF.1.1) * Interpret as radian measures of angles traversed counterclockwise around the unit circle. (F-TF.1.2) * Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline. (F-TF.2.5) * Prove the Pythagorean identity . (F-TF.3.8)   **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:**   |  |  |  | | --- | --- | --- | | * Radian | * Amplitude | * Pythagorean Identity | | * Degree | * Frequency | * Special Right Triangles | | * Arc Length | * Midline | * Periodic | | * Unit Circle | * Absolute Value | * Trigonometric Function * Coterminal Angles |   **The student will be able to:**   * Convert between radians and degrees for any angle. (F-TF.1.1) * Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers. (F-TF.1.2) * Use Pythagorean Identity to calculate trigonometric ratios.   (F-TF.3.8) | | |
| **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 | | |