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| **LG #** | **AF07** | **Standards:** | **F-TF.2.5, F-TF.2.6, F-TF.2.7** |
| **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:**   * Create a piece-wise function that includes at least one trigonometric function to model periodic phenomena.   **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 trigonometric functions**  **The student will be able to:**   * Write trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline(F-TF.2.5) * Understand that restricting a trigonometric function to a domain on which it is always increasing or always decreasing allows its inverse function to be constructed (F-TF.2.6) * Use inverse functions to solve trigonometric equations that arise in modeling contexts (F-TF.2.7) * Interpret the solutions of trigonometric functions using technology (F-TF.2.7)   **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:**   |  |  |  | | --- | --- | --- | | * Periodic phenomena | * Amplitude | * Frequency | | * Midline | * Domain | * Increasing | | * Decreasing | * Inverse | * Oscillating | | * Sinusoidal | * Phase shift | * Vertical displacement |   **The student will be able to:**   * Choose trigonometric functions to model periodic phenomena(F-TF.2.5) * Understand when a trigonometric function is increasing or decreasing (F-TF.2.6) * Use inverse functions to solve trigonometric equations (F-TF.2.7) * Evaluate the solutions of trigonometric functions using technology(F-TF.2.7) | | |
| **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 | | |