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| **LG #** | **G08** | **Standards:** | **G-GMD.1.1, G-GMD.1.3, G-GMD2.4** |
| **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:**   * Compare the volumes of the 3D objects formed when a 2D object is rotated about the *x*-axis and *y*-axis.   **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 explain volume formulas and use them to solve problems, and visualize relationships between 2D and 3D objects.**  **The student will be able to:**   * [Give an informal argument for the formulas for the circumference of a circle and area of a circle using dissection arguments, Cavalieri’s principle, and informal limit arguments.](http://www.cpalms.org/Public/PreviewResource/Preview/71089) ([G-GMD.1.1](http://www.cpalms.org/Public/PreviewResource/Preview/71092)) * Give an informal argument for the formulas for the volume of a [cylinder](http://www.cpalms.org/Public/PreviewResource/Preview/71300), [pyramid](http://www.cpalms.org/Public/PreviewResource/Preview/71263), and [cone](http://www.cpalms.org/Public/PreviewResource/Preview/71307) using dissection arguments, Cavalieri’s principle, and informal limit arguments. (G-GMD.1.1) * Use volume formulas for [pyramids](http://www.cpalms.org/Public/PreviewResource/Preview/59177), [cones](http://www.cpalms.org/Public/PreviewResource/Preview/57555), and [spheres](http://www.cpalms.org/Public/PreviewResource/Preview/57556) to solve problems. (G-GMD.1.3) * [Identify three-dimensional objects generated by rotations of two-dimensional objects](http://www.cpalms.org/Public/PreviewResource/Preview/56776) (i.e. [triangles](http://www.cpalms.org/Public/PreviewResource/Preview/55011) and [rectangles](http://www.cpalms.org/Public/PreviewResource/Preview/55014)). (G-GMD.2.4)   **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:**   |  |  |  | | --- | --- | --- | | * Informal Argument | * Circumference | * Area | | * Volume | * Cylinder | * Pyramid | | * Cone * Height * Radius | * Sphere * Slant Height * Oblique | * Cross-section * Base |   **The student will be able to:**   * [Use volume formulas for cylinders to solve problems. (G-GMD.1.3)](http://www.cpalms.org/Public/PreviewResource/Preview/57553) * [Identify and describe the shapes of two-dimensional cross-sections of three-dimensional objects.](http://www.cpalms.org/Public/PreviewResource/Preview/71357) ([G-GMD.2.4](http://www.cpalms.org/Public/PreviewResource/Preview/71370)) | | |
| **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 | | |