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TORRICELLI SOLIDS

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Abstract of Poster Presentation: Torricelli's Trumpet (also known as Gabriel's Horn), the solid of revolution achieved by rotating the graph of the function, $f(x) = 1/x$ around the x -axis, is known to have a finite volume but an infinite surface area. By analyzing the solids of revolution generated by functions of the form $f(x)=1/x^p$, and other special functions, we have been able to isolate a set of functions with the Torricelli characteristics.

By doing this, we expose trends amongst these functions, and make predictions about their behavior. In addition, we will consider the possibility of the existence of isolated solids in three-dimensional space with the same properties of finite volume and infinite surface area.

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