The King's Chamber, the Sphere, and the Cube

The magical golden ratio.

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Version 1.0.0

DOI: https://doi.org/10.5281/zenodo.8056716

19 June 2023

Abstract

The volume of the King's Chamber in the Great Pyramid is the sum of a sphere and a cube, both based on the golden ratio φ.

Keywords: History of Mathematics, Egyptology, Great Pyramid, Giza, golden ratio φ.

Using the golden ratio φ at 1.618, φ^2 at 2.618, π at 3.142, and $\sqrt{5}$ at 2.236. Royal cubit 𓍿 is 0.5236 m.

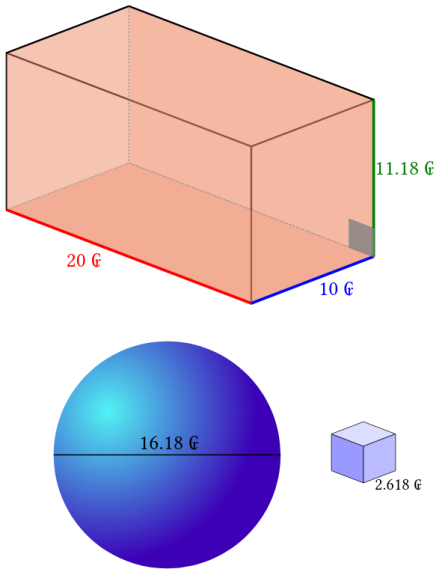

Figure 1: The King's Chamber, the Sphere, and the Cube

Volume of the Kings's Chamber is $20 \times 10 \times 11.18 = 2236 = 1000\sqrt{5}$ 𓍿³.

Volume of the sphere is $\frac{4 \times 3.142}{3} \times \left(\frac{16.18}{2}\right)^3 = 2218.147807$𓍿³

Volume of the cube is $2.618^3 = 17.943573$𓍿³

Sum of sphere and cube is $2218.147807 + 17.943573 = 2236(.09138)$𓍿³, the volume of the King's Chamber to the nearest cubit.

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