

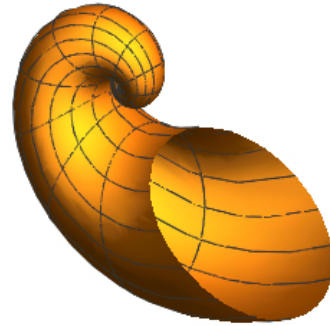
## About the Cover

The surface of a cornucopia in 3-space can be given by the parametric equations

$$x = e^{bv} \cos v + e^{av} \cos u \cos v,$$

$$y = e^{bv} \sin v + e^{av} \cos u \sin v,$$

$$z = e^{av} \sin u.$$



Our cornucopia has  $a = 0.3$ ,  $b = 0.4$  for  $0 \leq u \leq 2\pi$  and  $-5 \leq v \leq 5$ . The axis of the cornucopia lies in the  $x$ - $y$  plane and is the logarithmic spiral  $r = e^{bv}$  with a circular cross-section that grows exponentially as  $e^{av}$ . Professor Yung-Pin Chen of Lewis & Clark College drew our cornucopia using the software Mathematica®.

In addition to familiar quadrilaterals such as a square, a rectangle, a trapezoid, a parallelogram, and a rhombus, the cornucopia contains two kites, a skew quadrilateral, and quadrilaterals that are equidiagonal, orthodiagonal, midsquare, cyclic, tangential, and bicentric. All these (and more) are discussed in the book.