the ideas are to be found scattered through the first 25 pages of Klingenberg [**4**], while Exercise 6 on p. 47 of do Carmo [**2**] states a special case of our formula for $L_2 - L_1$. Many excellent sources are available [**5**, **6**] for anyone interested in delving further into differential geometry.

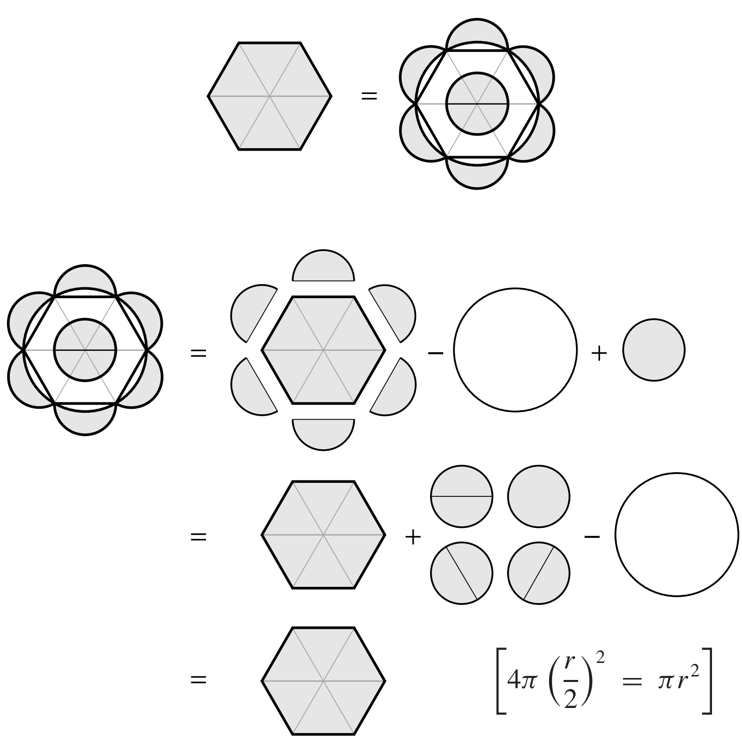
REFERENCES

1. John A. Baker, Plane curves, polar coordinates and winding numbers, this MAGAZINE **64** (1991), 75–91.
2. Manfredo P. do Carmo, *Differential Geometry of Curves and Surfaces*, Prentice-Hall, Englewood Cliffs, NJ, 1976.
3. William Fulton, *Algebraic Topology: A First Course*, Springer, New York, 1995.
4. Wilhelm Klingenberg, *A Course in Differential Geometry*, Springer, New York, 1978.
5. Barrett O'Neill, *Elementary Differential Geometry*, 2nd ed., Academic Press, San Diego, 1997.
6. Michael Spivak, *A Comprehensive Introduction to Differential Geometry*, 3rd ed., Vol. 1, Publish or Perish, Houston, 1999.

Proof Without Words: Lunes and the Regular Hexagon

THEOREM. If a regular hexagon is inscribed in a circle and six semicircles constructed on its sides, then the area of the hexagon equals the area of the six lunes plus the area of a circle whose diameter is equal in length to one of the sides of the hexagon. [Hippocrates of Chios, ca. 440 B.C.E]

Proof.



$$\left[4\pi\left(\frac{r}{2}\right)^2 = \pi r^2\right]$$

REFERENCE

1. William Dunham, *Journey through Genius*, John Wiley and Sons, New York, 1990, Chapter 1.

——ROGER B. NELSEN
LEWIS AND CLARK COLLEGE
PORTLAND, OR 97219