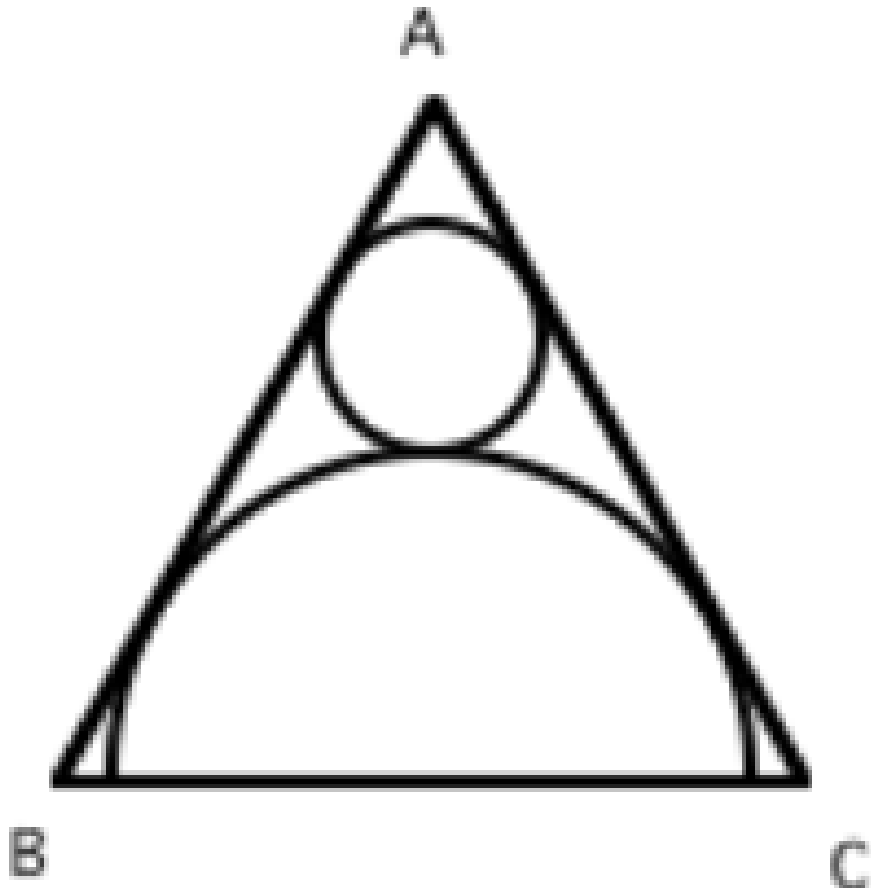## Problem 5: Circles inside a Triangle

In the figure below, an equilateral triangle ABC contains an inscribed semicircle of radius R that is tangent to sides AB and AC, and inscribed circle of radius r that is tangent to the triangle and the semicircle. Find the ratio R/r.

As always, show your work, fully explain and justify your answer. A solution mainly obtained by computers or calculators will not be accepted.