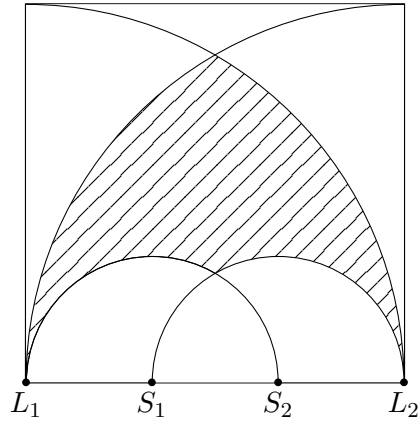**Math Club: Contest Week One**

Release Date: January 18, 2023
Instructions: Solve the following problem the best you can, first to submit the correct solution via email or the secretaries in Room 332 (with time stamp) wins!

Problem 1. A square with side length 1 is constructed and two adjacent corners L_1 and L_2 are chosen on this square. The side given by $\overline{L_1L_2}$ is trisected giving two points S_1 and S_2 along $\overline{L_1L_2}$. Arcs of radius 1 are drawn within the square centered at L_1 and L_2. Arcs of radius $1/3$ are drawn within the square centered at S_1 and S_2. This construction is shown below.

Compute the area of the hatched figure.