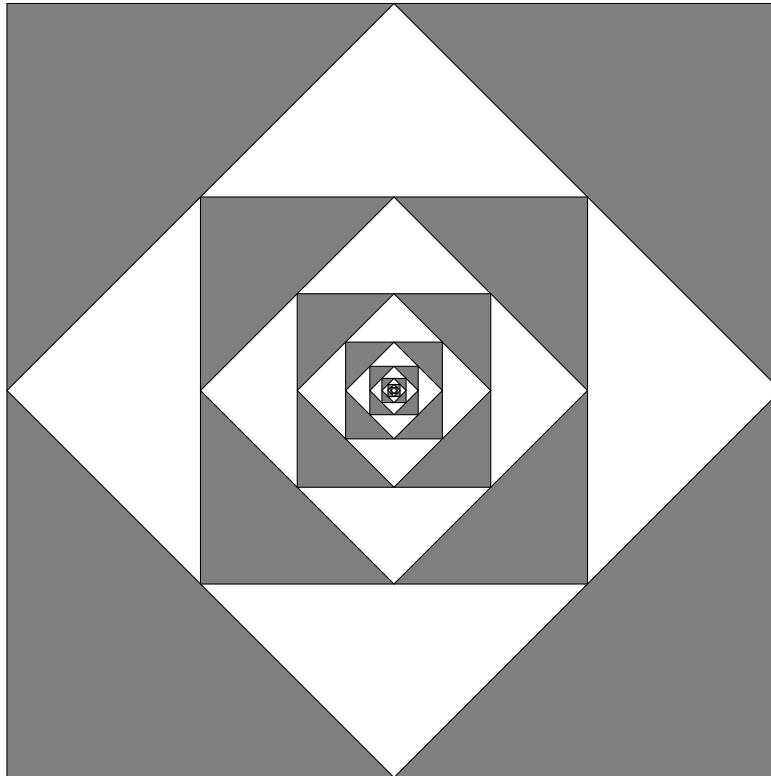


### Challenge Problem 3: A Shaded Square

A square is subdivided by joining the midpoints of sides and then shading the outermost corners. Another square is drawn inside the unshaded portion, and the process is repeated as pictured.



What portion of the big square is shaded?