

## In-Class Worksheet

Discrete Math & Functional Programming— CSCI 054— Spring 2025

Instructor: Osborn

Let  $T(n)$  be the number of filled triangles in a Sierpinski's triangle after  $n$  iterations where  $T(0)$  is a single filled triangle. Observe that  $T(n) = 3T(n - 1)$

Use induction to prove that  $T(n) = 3^n$ .

