

MATH 242 — 9 March 2026

The Collatz Function:

$$\text{Col}(n) = \begin{cases} 3n + 1 & \text{if } n \text{ is odd} \\ \frac{n}{2} & \text{if } n \text{ is even} \end{cases}$$

The Collatz Conjecture:

For every positive integer n , the Collatz trajectory starting with n eventually reaches 1.

Streaks (consecutive identical values) in Collatz stopping times:

{0, 1, 7, 2, 5, 8, 16, 3, 19, 6, 14, 9, 9, 17, 17, 4, 12, 20, 20, 7, 7, 15, 15, 10, 23, 10, 111, 18, 18, 18, 106, 5, 26, 13, 13, 21, 21, 21, 34, 8, 109, 8, 29, 16, 16, 16, 104, 11, 24, 24}