NAU · DEPARTMENT of MATHEMATICS and STATISTICS

Problem of the Week

#7

Fall 2026

Due Monday, November 9 at 11:59 pm (Arizona time)

A Square Integral

Find all continuous functions $f : \mathbb{R} \to \mathbb{R}$ such that

$$\big(f(x)\big)^2 = \int_0^x f(t)\,dt \qquad \text{for every real number } x.$$

How to enter

Scan the code, or go to **ac.nau.edu/lms-apps/self-enroll/545026**, to join the POTW Canvas course. Then upload **one PDF** (typed, or neatly handwritten and scanned) to this week's assignment. Open to all NAU undergraduates.

Join on Canvas

The rules

- **Your own work only.** No AI tools (ChatGPT, Gemini, Claude, Copilot, Photomath, …), no internet, no calculators or software, and no help from other people.
- **Explain everything.** A bare answer earns little credit; a clear, complete argument earns full credit.
- Any participant may be asked to explain their solution in person.

Scored 0–4. Full rules, past problems, and model solutions:
naumathstat.github.io/problem-of-the-week
Questions: **ian.williams@nau.edu**