

Week #2 Fall 2024



Problem of the Week



Hank needs milk for a recipe, but the recipe states that he is to put one gallon of milk into a bowl, then remove $\frac{1}{2}$ a gallon from the milk that is now in the bowl, he is then to add $\frac{1}{3}$ of a gallon of milk, followed by removing $\frac{1}{4}$ of a gallon of milk, adding $\frac{1}{5}$ of a gallon of milk, and removing $\frac{1}{6}$ of a gallon of milk, ... forever. Unable to figure out exactly how much milk he needs, Hank decides to purchase the largest amount of milk that will ever be in the bowl. What is this largest amount?

Undergraduates may submit solutions to the Mathematics Department office, 1150 FAB **or** by email to mathpow@wayne.edu by noon 10/1/2024. Include your name, ID number, and whether you have completed Math 2030 (or higher). For more information go to <https://clas.wayne.edu/math>. Solutions will be posted online and throughout the math department after the deadline.