Practice Test 1

Last modified: Wednesday Jan 21, 2026

Question 0: Consider the integral $\int_2^7 \sin(x)dx = \lim_{n\to\infty} \sum_{i=1}^{n} \left(\frac{5}{n}\right) \sin\left(2 + \frac{5i}{n}\right)$

The x-value of the point where we take the height of each rectangle is given by $2 + (5i/n)$. Explain in words what each part 2, 5, i, n and the overall expression represents on the x-axis.

Question 1: If $\int_2^5 f(x)dx = 7$, then $\int_2^5 3f(x) + 4dx =$

Hint: See the first two theorems in Textbook section 5.4.

Question 2: The population of Winterland is given by $P(t)$, the population in 100s of people at time t in years after Jan 1, 2024. We are told that the