Worksheet 2

Finite Sums

Consider the sequence \( a_n = \frac{n^3}{n!} \)

1. Starting at \( n = 1 \), what are the first 6 terms of the sequence \( a_n \)? List the exact terms as fractions.

2. Graph \( a_n \) from \( n = 1 \) to \( n = 6 \). Use the grid below. Label your axes properly.

3. Compute the finite sum \( \sum_{n=1}^{6} a_n \). Round your answer to 2 decimal places.

4. In your graph from question 2, draw and shade a set of rectangles whose area matches the sum in question 3.