1. (3 pts) Use sigma notation, to find

\[ f(0.1) + f(0.2) + f(0.3) + f(0.4) + f(0.5) + f(0.6) + f(0.7) + f(0.8) + f(0.9) + f(1) \]

where \( f(x) = \frac{1}{7}x^2 + 3. \)

2. (3 pts) Evaluate the limit

\[ \lim_{n \to \infty} \sum_{i=1}^{n} e^{\frac{2i}{n}} \frac{2}{n} \]

3. (4 pts) Evaluate the integral, by interpreting as areas,

\[ \int_{0}^{4} f(x) \, dx \]

where

\[ f(x) = \begin{cases} \sqrt{4-x^2} & \text{if } x \leq 2 \\ -1 & \text{if } x > 2 \end{cases} \]