

Name: _____ Score: _____

1. Compute the sum and the limit of the sum as $n \rightarrow \infty$.

$$\sum_{i=1}^n \frac{1}{n} \left[\left(\frac{i}{n} \right)^2 + 2 \left(\frac{i}{n} \right) \right]$$

You may use the following equalities:

$$\sum_{i=1}^n i = \frac{n(n+1)}{2}, \quad \sum_{i=1}^n i^2 = \frac{n(n+1)(2n+1)}{6}$$

—— Good luck! ——