

**WRITE YOUR NAME:**

MAC 2312 Homework 1

Due in class, Friday January 19th

You can use more paper if necessary, but please STAPLE

**Question 1.** Evaluate the sum. You can use theorems from Section 5.4 of the textbook.

$$\sum_{k=0}^{99} (k^2 + 2k + 1)$$

**Question 2.** Let  $f$  be the function  $f(x) = \sqrt{x^3 - x + 1}$  on the interval  $[0, 6]$ . Divide the interval into  $n = 3$  subintervals of equal length and then compute

$$\sum_{k=1}^3 f(x_k^*) \Delta x$$

if  $x_k^*$  is the midpoint of each subinterval.