Name:_____

Math 106 Quiz #5 February 26, 2018

• This is a closed-book quiz. No books, notes, calculators, cell phones, communication devices of any sort, or webpages, or other aids are permitted.

1. [10 points] Evaluate $\int_1^4 x^2 - 3x \, dx$ using the *limit definition of the definite integral*. Then draw a sketch of the bounded region and explain why the answer is negative. You may use the formulas at the bottom of the page.

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

2. [10 points] Evaluate $\int_0^3 2 - x \, dx$ using two different methods.

(a) First, use the *limit definition of the definite integral.*

(b) Next, use Area Interpretation of the definite integral. Show your work.