

## Math 102 (071)

## Quiz 3

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Name: \_\_\_\_\_

ID #: \_\_\_\_\_ Sec. #: \_\_\_\_\_

(Show Your Work)

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1. Evaluate  $\int (\ln x)^2 dx$ . (6 points)

2. Write out the form of the partial fraction decomposition of  $\frac{1}{x^6 - x^3}$ . Do not determine the numerical values of the coefficients. (4 points)

3. Evaluate  $\int \frac{x}{\sqrt{3 - 2x - x^2}} dx$ .

(7 points)

4.  $\int_0^{\pi/4} \sec^4 \theta \tan^4 \theta d\theta$  is equal to

(3 points)

(a)  $\frac{1}{7}$

(b)  $\frac{2}{35}$

(c)  $\frac{12}{35}$

(d)  $\frac{1}{5}$

(e)  $-\frac{1}{7}$