

Name: _____ Date: _____

Instructions. Show all work with clear, logical steps. No work or hard-to-follow work will lose points. Scientific calculators are allowed.

Problem 1. (4 points) Use u-substitution to evaluate the following definite integral:

$$\int_1^2 x\sqrt{x-1} \, dx.$$

Problem 2. (4 points)

Set up the integral and find the average value of the function

$$f(x) = x e^{x^2}$$

over the interval $0 < x < 2$.

Remember—writing your name and full date at the top earns 2 free points!