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) Find the derivative of the following function and simplify: *Hint: Simplify the expression into separate terms before differentiating.*

$$y = \frac{x^6 - 7\sqrt{x}}{\sqrt{x}}.$$

Problem 2. (4 points) Evaluate the following definite integral.

$$\int_0^1 \left(3t^2 + 2t\right) dt.$$

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