Quiz #3

Name: _____

Math 140, Prof. Beydler

Wednesday, November 9, 2016

Directions: Show all work. No books or notes. A **scientific calculator** is allowed. Your desk and lap must be clear (no phones, notebooks, etc.). Write your answers in the indicated places, or box your answers. Good luck!

1. (2 points) Find the integral.

$$\int \left(2x^{1/3} - e^{-2x} + \frac{5}{x} \right) dx$$

Answer: _____

2. (3 points) Solve the given separable initial value problem.

$\frac{dy}{dx} = \frac{x^2}{2y}$; $y = 1$ when $x = 0$

Answer: _____

3. (3 points) A manufacturer estimates that the marginal cost of producing q units of a certain commodity is $C'(q) = q^2 - 10q + 60$ dollars per unit. If the cost of producing 6 units is $1,000, what is the cost of producing 9 units?

Answer: _____

4. (4 points) Find the integral.

$$\int 4x(x^2 - 2)^5 dx$$

Answer: _____

5. (3 points) Evaluate the integral.

$$\int_0^4 \left(\sqrt{x} + 3 \right) dx$$

Answer: _____