

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

Math 211 Quiz 4

Section: 322

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Oct 11, 2012

1. (10 pts) Find the derivatives of the following functions and simplify your answers.

a.  $g(t) = (\sqrt{t} + 1)\left(\frac{1}{\sqrt{t}} + 1\right)$       b.  $f(x) = \frac{3e^t}{t^2 + 2t + 2}$

2. (10 pts) A car-detailing service estimates that its daily cost of waxing  $q$  cars is

$$C(q) = 0.08q^2 + 37q + 350.$$

If the service collects \$65 for each car waxing, find

- a. (3 pts) the revenue function  $R(q)$ .  
b. (7 pts) the number of cars the service should wax daily in order to maximize profit.