Name_____ Section 0251

Answer all problems. There are 10 possible points.

1. (5 pts) Evaluate $\dfrac{dy}{dt}$ for $xe^{y} - 1 = 2\ln x; \dfrac{dx}{dt} = 3, x = 1, y = 0$

2. (5 pts) A manufacturer of handcrafted wine racks has determined that the cost to produce x units per month is given by $C = 0.1x^{2} + 10,000$. How fast is the cost per month changing when production is changing at the rate of 8 units per month and the product level is 120 units?