

Name _____

Section 0242

Answer all problems. There are 10 possible points.

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

2. (5 pts) A manufacturer of handcrafted wine racks has determined that the cost to produce x units per month is given by $C = 0.4x^2 + 5,000$. How fast is the cost per month changing when production is changing at the rate of 12 units per month and the product level is 100 units?