

Name _____ Date _____

Instructions: Please show all of your work as partial credit will be given where appropriate, **and** there may be no credit given for problems where there is no work shown. All answers should be completely simplified, unless otherwise stated.

1. (15 points) Determine whether $\mathbf{F}(x, y) = (2e^y - ye^x)\mathbf{i} + (2xe^y - e^x)\mathbf{j}$ is conservative. If so, find f such that $\mathbf{F} = \nabla f$. If not, state that \mathbf{F} is not conservative.

Conservative: True or False (circle one)

If conservative, $f =$ _____

2. (15 points) Evaluate the line integral $\int_C xe^y ds$, where C is the line segment from (-1,2) to (1,1).

Answer _____

3. (10 points) What.... is your favorite color?

Answer: _____