Math 251 Quiz 28-April 7 Name_____
K. Pericak-Spector

1. Evaluate $\int_C \mathbf{F} \cdot dr$ where $\mathbf{F} = e^{x-1}\mathbf{i} + xy\mathbf{i}$ and C is the boundary of the region enclosed by $r = t^2\mathbf{i} + t^3\mathbf{j} \quad 0 \leq t \leq 1$.

2. Evaluate $\int_C x^2 y\sqrt{z}\,dx + 2x\,dy + 3y^2 z dz$ where $r = \langle t^3, t, t^2\rangle \quad 0 \le t \le 1$.

3. Find the mass of the wire in the shape of a quarter circle $x^2 + y^2 = r^2 \quad x \ge 0, y \ge 0$ if the density is $\rho = x + y$.