

Name: _____

Math 2030, Fall 2017, Quiz 12
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No calculators needed or allowed.

1. Let C be the curve $x = t^2, y = t^3, -1 \leq t \leq 1$. Compute the line integral $\int_C x \, dy - y \, dx$.
2. Show that the vector field $(2x + y, x + 2y)$ is conservative and find a potential function for it.
3. Compute $\int_C (2x + y) \, dx + (x + 2y) \, dy$ if C is a curve from $(1, 2)$ to $(2, 3)$.