

Problem statement Suppose C is the part of the parabola $x = -y(y - 1)$ connecting $(0, 0)$ to $(0, 1)$ as shown. Compute

$$\int_C \left(e^{x^2} + 5y + 3 \right) dx + \left(x^2 + 5y^3 \right) dy.$$

Comment A direct computation is unreasonable. Use Green's Theorem to compute a double integral and then also compute *another* simpler line integral. These results can be used to find the value of the line integral requested.

