

GREEN'S THEOREM PROBLEM

Theorem 0.1. *Let R_1 be the region in \mathbb{R}^2 bounded by the curves $x = d, y = c, y = f(x)$ where $f(x) = y$ is the same curve as $x = g(y)$ (i.e. f is invertible on the interval of interest) and $f(x) > c$ on the region of interest. Prove*

$$-\int \int_{R_1} \frac{\partial P}{\partial y} dx dy = \int_{\partial R_1} P dx.$$

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