1. $\S 10.4$ Evaluation of Line Integrals by Green's Theorem.

20 points
Using Green's Theorem, evaluate $\int_{C} y^{3} d x-x^{3} d y$ counterclockwise around the boundary curve $C$ of the region $R$, where $C$ is the circle $x^{2}+y^{2}=4$.

