第二次作业 (A PROOF OF GREEN'S THEOREM)

请于<u>三月七日周五（校历第三周）</u> 当堂上交本次作业。请独立完成。如有参与讨论者，请引用或致谢他们。

1. Let Γ be a bounded piecewise smooth domain in $\mathbb{R}^2$ with oriented boundary curve Γ. Also let X be an open neighborhood of $\overline{\Omega}$ in $\mathbb{R}^2$, and let $g, h \in C^1(X)$. Then

$$\int_\Gamma g dx + h dy = \int_\Omega (\frac{\partial h}{\partial x} - \frac{\partial g}{\partial y}) dx dy.$$