13.4 Notes

- For curve: C is positively oriented if C is counter-clockwise; negatively oriented if clockwise

C is positively oriented, piecewise-smooth, simple closed curve in plane. D is open region bounded by C

- P and Q have continuous partial derivatives on an open region containing D.

$$\int_C P\,dx + Q\,dy = \iint_D \left(\frac{\partial Q}{\partial x} - \frac{\partial P}{\partial y}\right)$$

↑ Green's theorem

$\oint_C P\,dx + Q\,dy$: means line integral is calculated using positive orientation of closed curve C