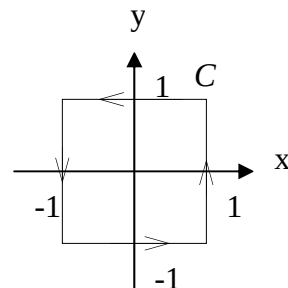


年級：_____ 姓名：_____ 學號：_____

國立台灣海洋大學河海工程學系 2004 工程數學（三）第五次小考

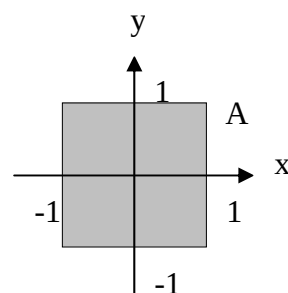
1. $\oint_C \left(\frac{-y}{x^2 + y^2} \right) dx + \left(\frac{x}{x^2 + y^2} \right) dy = ?$

where C is shown in figure.



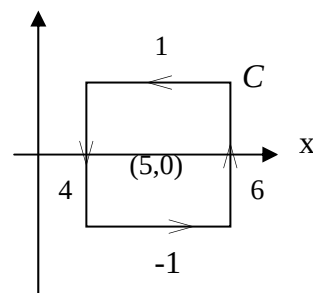
2. $\iint_A \left[\frac{\partial}{\partial x} \left(\frac{x}{x^2 + y^2} \right) - \frac{\partial}{\partial y} \left(\frac{-y}{x^2 + y^2} \right) \right] dA = ?$

where A is shown in figure.



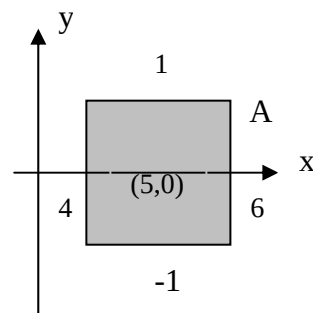
3. $\oint_C \left(\frac{-y}{x^2 + y^2} \right) dx + \left(\frac{x}{x^2 + y^2} \right) dy = ?$

where C is shown in figure.



4. $\iint_A \left[\frac{\partial}{\partial x} \left(\frac{x}{x^2 + y^2} \right) - \frac{\partial}{\partial y} \left(\frac{-y}{x^2 + y^2} \right) \right] dA = ?$

where A is shown in figure.



5. $\iint_A \left[\frac{\partial}{\partial x} \left(\frac{x}{x^2 + y^2} \right) - \frac{\partial}{\partial y} \left(\frac{-y}{x^2 + y^2} \right) \right] dA = ?$

