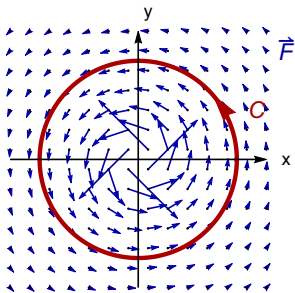


The Fundamental Theorem



Question

The vector field

$$\vec{F} = \frac{-y}{x^2 + y^2} \vec{i} + \frac{x}{x^2 + y^2} \vec{j} = P\vec{i} + Q\vec{j}$$

satisfies the condition $\frac{\partial P}{\partial y} = \frac{\partial Q}{\partial x}$
throughout its domain.

True or False: $\int_C \vec{F} \cdot d\vec{r} = 0$?

- A. True, and I am confident
- B. True, but I am not confident.
- C. False, but I am not confident.
- D. False, and I am confident.