

Question

The vector field $\vec{F} = \frac{-y\vec{i} + x\vec{j}}{(x^2 + y^2)}$ has $\text{curl}(\vec{F}) = 0$ everywhere that \vec{F} is defined. How do $\int_{C_1} \vec{F} \cdot d\vec{r}$ and $\int_{C_2} \vec{F} \cdot d\vec{r}$ compare?

- A. $\int_{C_1} \vec{F} \cdot d\vec{r} < \int_{C_2} \vec{F} \cdot d\vec{r}$
- B. $\int_{C_1} \vec{F} \cdot d\vec{r} = \int_{C_2} \vec{F} \cdot d\vec{r}$
- C. $\int_{C_1} \vec{F} \cdot d\vec{r} > \int_{C_2} \vec{F} \cdot d\vec{r}$
- D. There is not enough information.

