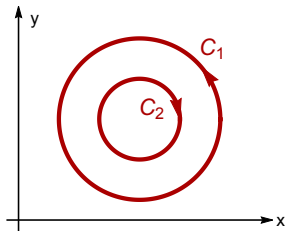


# Green's Theorem



## Question

The circles  $C_1$  and  $C_2$  have radii 1 and 2, respectively, and the same center. If  $\vec{F} = P\vec{i} + Q\vec{j}$  has  $\frac{\partial Q}{\partial y} - \frac{\partial P}{\partial x} = 1$  throughout the first quadrant, then which of the following is equal to  $\int_{C_1} \vec{F} \cdot d\vec{r}$ ?



A.  $\int_{C_2} \vec{F} \cdot d\vec{r}$

B.  $3\pi + \int_{C_2} \vec{F} \cdot d\vec{r}$

C.  $-\int_{C_2} \vec{F} \cdot d\vec{r}$

D.  $3\pi - \int_{C_2} \vec{F} \cdot d\vec{r}$

E. There is not enough information.