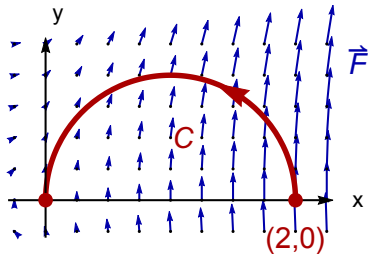


# Green's Theorem



## Question

The figure shows a semicircular curve  $C$  in a field  $\vec{F} = P\vec{i} + Q\vec{j}$  with  $\frac{\partial Q}{\partial x} - \frac{\partial P}{\partial y} = 2$  on  $\mathbb{R}^2$ . What is the value of  $\int_C \vec{F} \cdot d\vec{r}$ ?



- A.  $-\pi$
- B.  $0$
- C.  $\pi$
- D. There is not enough information.