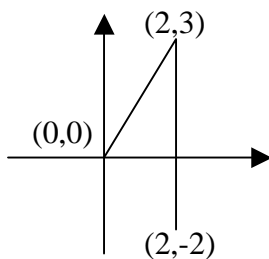


Q1. Find the curl of $F(x, y, z) = xy\vec{i} - y^2z\vec{k}$

Q2. Evaluate $\int_C xdy$ where C is the curve as shown in the figure.



Q3. Using the Green's theorem, express the line integral $\oint_C xy^2 dx$ as $\int_a^b \int_c^d f(r, \theta) r dr d\theta$ where C is a closed curve consisting of two semi circles and two line segments as shown in the figure.

