1. (3 points) Use Green’s Theorem to evaluate the line integral. $\vec{F} = yi - xj$ clockwise around the unit circle.

2. (3 points) Use Green’s Theorem to evaluate the line integral. $\vec{F} = xyi + (x - y)j$ and $C$ is the triangle joining $(2,0)$, $(0,2)$ and $(-2,0)$ in the counterclockwise direction.
3. (2 points) Find the curl and div of \( \mathbf{F}(x, y, z) = e^{-x} \sin y \mathbf{i} + e^{-y} \sin z \mathbf{j} + e^{-z} \sin x \mathbf{k} \)

4. (2 points) Find the div of \( \mathbf{F}(x, y, z) = (x^2 - y^2) \mathbf{i} + 2xy \mathbf{j} \)