

The Sign of Work: For the force vector shown above, draw three paths such that the work done by $\vec{F}$ is positive, zero, and negative for small displacements along each path.

Estimate Vector Line Integral: For each segment of the path on the vector field $\vec{F}$ shown below, estimate the value of the integral:

$$\int_{\text{path}} \vec{F} \cdot d\vec{r}$$

where the side of each square is 1 cm and the length of the longest arrow is 10 units (appropriate for the field $\vec{F}$).

