

W.1 Using the completely antisymmetric tensor ϵ_{ijk} , calculate $\nabla \times \mathbf{v}$ for the case that the velocity in a fluid is given by $\mathbf{v} = \boldsymbol{\omega} \times \mathbf{r}$, where $\boldsymbol{\omega}$ is a constant vector and \mathbf{r} is the coordinate vector to the location of an element of the fluid.