

Assignment 12

Coverage: 16.8 in Text.

Exercises: 16.8 no 17, 19, 20, 21, 25, 28, 29, 30.

Hand in no. 17, 19, 20, 21 by Dec 7.

Supplementary Problems

1. Verify that for any k -form ω , $d(d\omega) = 0$. You may work on the 3-dimensional space.
2. Verify (a) $\nabla \times \nabla\Phi = \mathbf{0}$, and (b) $\nabla \cdot \nabla \times \mathbf{A} = 0$ for any function Φ and vector field \mathbf{A} .