Special Problem 4-3.1

A static electric field is evaluated at point x=2, y=-1, z=1 (with units of meters), and determined to be:

$$\mathbf{E}(x=2, y=-1, z=1) = \frac{\hat{a}_x + 2\hat{a}_y - 2\hat{a}_z}{12\pi\varepsilon_0}$$

This electric field was generated by a point charge of -9.0 Coulombs.

The point charge is located 3 meters from the evaluation point x=2, y=-1, z=1.

- 1. Find the exact location of the point charge.
- 2. Determine the electric field vector at point x=5, y=3, z=6.