## 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:

$$
\mathrm{E}(x=2, y=-1, z=1)=\frac{\hat{a}_{x}+2 \hat{a}_{y}-2 \hat{a}_{z}}{12 \pi \varepsilon_{0}}
$$

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 $x=5, y=3, z=6$.
