

65. On the dipole axis  $\theta = 0$  or  $\pi$ , so  $|\cos \theta| = 1$ . Therefore, magnitude of the electric field is

$$|E(r)| = \left| -\frac{\partial V}{\partial r} \right| = \frac{p}{4\pi\epsilon_0} \left| \frac{d}{dr} \left( \frac{1}{r^2} \right) \right| = \frac{p}{2\pi\epsilon_0 r^3} .$$