Equation Roundup

	General	Point Charge(s) Only	Dipole Only
	$k = \frac{1}{4\pi\varepsilon_0}$	$\left\|\vec{F}\right\| = k\frac{\left\|Q_1\right\|\left\|Q_2\right\|}{r^2}$	$\left\|\vec{p}\right\| = qd$ neg. to pos.
Charge **makes** field		$\left\|\vec{E}\right\| = k\frac{\left\|Q_1\right\|}{r^2}$ out of pos., into neg.	If far from dipole, $\vec{E} = 2k\frac{\vec{p}}{z^3}$ $\vec{E} = -k\frac{\vec{p}}{x^3}$
External field **pushes on** charge		$\vec{F} = q\vec{E}_{\text{ext}}$	$\vec{\tau} = \vec{p} \times \vec{E}_{\text{ext}}$ $\vec{F} = 0$ if $\vec{E}_{\text{ext}}$ is uniform
Energy in **external** field			$U = -\vec{p} \cdot \vec{E}_{\text{ext}}$