

## Physics 100B Electromagnetism

For Problem 5.49:

If you seem to be getting an “extra” term, it will help to note that

$$\int \frac{(\vec{r} - \vec{r}')}{|\vec{r} - \vec{r}'|^3} \cdot d\vec{\ell}_2 = - \int \vec{\nabla}_2 \left( \frac{1}{|\vec{r} - \vec{r}'|} \right) \cdot d\vec{\ell}_2$$