E. Jenkins

DEPARTMENT OF PHYSICS

Physics 100B Electromagnetism

For Problem 5.49:

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

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