PHYS 333 — Problem Set #13

Reading: Griffiths 4.1–4.2

Problems: Due Wednesday October 8

1. Griffiths 4.10

2. Griffiths 4.14 (The proof is actually very short.)

3. The development in Section 4.2.1 depends critically on the result

$$\nabla'\left(\frac{1}{\imath}\right) = \frac{\hat{\imath}}{\imath^2}.$$

   Prove this relationship. (I suggest using Cartesian coordinates.)