Homework

Set 3, Exercise 3

1. Lecture notes, Exercise 13.1.

2. H: 7.1.20 k) (You may use the result in H: 7.1.20 i).)

3. Let $n \geq 3$ and $u \in \mathcal{D}'(\mathbb{R})$. Show that if Δu is continuous then u is continuous.
   Hint(I think): Let $\Delta E = \delta$ and take $\chi \in C_0^\infty$ with $\chi = 1$ near the origin. Show first that $\Delta(\chi E) = \delta + \phi$ where $\phi \in C_0^\infty$.