

**887 Spring '03      HOMEWORK assignment 4, for your enjoyment and edification**

(1) Prove directly from (111)Theorem that, for any  $f \in S_{k,\mathbf{t}}$ ,  $\lambda_{i,k}f$  as a function of  $\tau$  in its definition (97), is constant on  $[t_i \dots t_{i+k})$ . Specifically, show that any jump discontinuity in  $D^{k-\nu}f$  at a knot interior to  $(t_i \dots t_{i+k})$  is compensated for by a zero of  $\psi_{i,k}$  of the appropriate order.