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 τ in its definition (97), is constant on $[t_i \,..\, t_{i+k})$. Specifically, show that any jump discontinuity in $D^{k-\nu} f$ at a knot interior to $(t_i \,..\, t_{i+k})$ is compensated for by a zero of $\psi_{i,k}$ of the appropriate order.