Problem 25

(a) Show that the functions $f(t) = t^2|t|$ and $g(t) = t^3$ are linearly dependent on $0 < t < 1$ and on $-1 < t < 0$.

(b) Show that $f(t)$ and $g(t)$ are linearly independent on $-1 < t < 1$.

(c) Show that $W(f, g)(t)$ is zero for all $t$ in $-1 < t < 1$. 