

**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  $-1 < t < 1$ .