

## Math 204. Homework 3

Problems from W.E. Boyce, R.C. Diprima, D.B. Meade :

*Section 2.8* p. 89, Problems: 2, 5, 7, 11, 14 .

*Section 3.1* p. 107, Problems : 4, 5, 13, 15.

**Problem A** Show that if  $w(t)$  is continuous, nonnegative on some interval  $[0, T]$  and satisfies the inequality

$$w(t) \leq 5 \int_0^t w(s) ds \quad \forall t \in [0, T]$$

then  $w(t) = 0, \quad \forall t \in [0, T]$ .