**Midterm 2014**

4. In order to estimate the following model of emission by power plants:

 

You collect information from 110 firms on carbon dioxide emission (CO2), their level of production (Q), and a dummy variable that is equal to 1 for firms whose generator is older than 15 years (OLD) and zero otherwise. The estimated equation is the following:

  

(standard errors in parentheses)

a. What is the economic interpretation of the true parameters  and?

b. Construct a 95% confidence interval for . Give an interpretation.

c. Formally test whether OLD has any effect on  at the 5% significant level