

**Stat/Econ 473 Game Theory**  
Problem Set 3

**Due: Thursday February 4**

**From the Text:** Do problems: 5.4–5.6, 5.7–5.9, 6.5–6.7, 6.20

1) Consider a version of the Cournot Duopoly where Firms 1 and 2 have different costs. Assume that we have inverse demand function  $p = 1000 - Q$ , the cost function for Firm 1 is  $c_1(q_1) = 2q_1$  and  $c_2(q_2) = 3q_2$ .

- a) Find the Cournot Nash equilibrium.
- b) Suppose Firm 1 makes the decision first and Firm 2 makes a decision knowing  $q_1$ . Find the Stackleberg solution.