

Microeconomics
RR

Exercise Set 6
October 11 2006
(Due October 18)

1

Consider two firms, each producing a single product, the demands for which depend on the respective prices, p_1 and p_2 , of both products. The corresponding demand functions are:

$$\begin{aligned}Q_1(p_1, p_2) &= \max \{1 - (b + s)p_1 + sp_2, 0\}, \\Q_2(p_1, p_2) &= \max \{1 + sp_1 - (b + s)p_2, 0\}.\end{aligned}$$

where $b > 0$, $s \geq 0$, and prices must be nonnegative. Assume, for simplicity, that each firm's marginal cost is zero. Formulate the market as a noncooperative game, and find a Nash equilibrium (NE). Is it unique? (Explain your answer.)

2

In the model of Question 1, how do the NE prices and quantities depend on s ?

3

How would you interpret the parameter s ? For what value of s would you say that each firm is a monopolist? Is this a sensible model when s is large?