Problem Set 3

ECONS 321 - Sports Economics

Due March 2, 2018

1 Advertising

Suppose a firm has the following profit function:

$$\Pi = P(Q, A)Q - C(Q) - wA$$

where:

$$\begin{aligned} P(Q, A) &= 120 - 4Q + 2A^{1/2} \\ MB_A &= Q(A^{-1/2}) \\ TC_Q &= 5Q^2 + 20Q \\ MC_Q &= 10Q + 20 \\ w &= 1/4 \end{aligned}$$

a) Find the profit-maximizing quantity.

b) Find the profit-maximizing level of advertising.

c) Find the profit-maximizing price.

d) Find the maximum profit.

2 Ad Slots

Suppose that the broadcaster knows the demand for ad slots (Q) of a sports program is: $P = 1030 - 5Q$, the marginal cost is given by: $MC = 30$, and total cost is given by: $TC = 30Q$.

a) Find the profit-maximizing quantity.

b) Find the profit-maximizing price.

c) Suppose that the league can sell these rights at auction to many broadcasters. Up to how much will the broadcasters bid at the auction?

3 Antitrust

a) In the Grinnell opinion (to the Sherman Act), the Supreme Court set out a two-prong test for illegal monopolization. What are these two prongs?

b) Briefly describe Deutscher Tennis Bund v. ATP Tour Inc

c) Briefly describe Gunter Harz Sports v. USTA