EE 320 Introductory Mathematical Economics

Semester 2/2012

Problem Set 3 – Suggested Answers

Equilibrium Analysis

1. a. Q_{BE} = 3 units.
   b. Profit = $187

2. Beef market: P*= 5, Q* = 70
   Pork market: P** = 3, Q** = 90

3. a. P* = 52, Q* = 124
   b. $P^*_{producer}$ = 51.6, $P^*_{consumer}$ = 53.6, Q** = 123.2
   c. $TR_{beforeTax}$ = 6448, $TR_{afterTax}$= 6357.12

4. a. P* = 15, Q* = 185
   b. $P^*_{producer}$ = 16, $P^*_{consumer}$ = 12, Q** = 200
   c. The new supply curve should be to the right of the original supply curve.
   d. Total amount of subsidy = $800

5. a. Y* = 275
   b. Y* = 330.1887

[Typo: Consumption should be a function of Y_d.]

6. a. IS: Y = 700 – 250r; LM: Y = 1500r
   b. Y* = 600; r* = 0.4
   c. *[Correction: I' = 300 – 100r.]*
      New IS: Y = 1250 – 250r; r* = 0.714, Y* = 1071.429
   d. *[Correction: Ms = 2563]*
      New LM: Y = 630 + 1500r; r* = 0.04, Y* = 690