Econ 0100 | Homework E2
Due: Wednesday, November 29

Homework is designed to both test your knowledge and challenge you to apply familiar concepts in new applications. Answer clearly and completely; show your work so I can understand your thought process for partial credit; you are welcomed and encouraged to work in groups as long as your work is your own. Submit your work to the Lecture Gradescope.

Breaking Up A Monopoly

Suppose the demand for a good X is given by

$$P = 100 - Q$$

with a single seller A producing X at a constant marginal cost of 10. The marginal revenue for A is

$$MR_A = 100 - 2q_A$$

Prices are in galleons.

Question 1 | Equilibrium Quantity

What quantity of X should A supply?

Question 2 | Equilibrium Price

What price should A charge?

Question 3 | Profit

What profit will A generate?

Question 4 | Post Breakup Best Response

Due to it's strangle-hold on the market, the Commerce branch of the Ministry of Magic imposed a heavy-handed breakup of A into two companies, B and C, both with a marginal cost of 10 and with symmetric marginal revenue:

$$MR_B = 100 - 2q_B - q_C$$

$$MR_C = 100 - 2q_C - q_B$$

Find the two firm's best responses. This market is symmetric.

Question 5 | Post Breakup Market Equilibrium Quantity

What is the market equilibrium quantity in the market? Is quantity less than, equal to, or greater than quantity before the breakup?

Question 6 | Post Breakup Price

What is the market price in the market after the breakup? Is price less than, equal to, or greater than price before the breakup?

Question 7 | Post Breakup Profit

What is the total profit (from both firms) in this market? Is profit less than, equal to, or greater than profit before the breakup?