

# Chapter 16 Practice Problems

Elements of Microeconomics (discussion section 4)

Jamie Hyder

## Question 1

Consider a monopolistically competitive market with  $N$  firms in it. The following demand, marginal revenue, total cost, and marginal cost equations are for a single firm in the market:

$$Q_D = 50/N - 2P$$

$$MR = 100/N - Q$$

$$TC = 30 + Q^2$$

$$MC = 2Q$$

- (a) How does the number of firms in the market ( $N$ ) affect the demand curve of each firm?
- (b) At what  $Q$  will each firm produce?
- (c) What price does each firm charge?
- (d) How much profit does each firm make?
- (e) In the long run (where entry and exit are possible), how many firms will there be in this market?

## Question 2

Consider the market for grocery stores. Giant is one of the many firms in this market, which is in long-run equilibrium.

- (a) Draw a diagram showing Giant's demand curve, marginal revenue, marginal cost, and average total cost. Label the profit maximizing  $Q$  and  $P$  for Giant.
- (b) What is the efficient/socially optimal level of output and price in this market? Label this on your diagram.
- (c) What is Giant's profit? Why?

### Question 3

How would you classify each of the following markets, perfect competition, monopolistic competition, or monopoly? Explain why.

- (a) Tap water
- (b) Lipstick
- (c) Local electricity
- (d) Peanut butter
- (e) Train tickets