time : 1 hour

Do all 4 questions. All count equally.

1. "Monopoly is inefficient because the monopoly's owner makes high profits, and the monopoly's customers pay high prices". Discuss.

2. If the market demand curve for the product of some duopoly had the equation

$$Y = 24 - p$$

where $Y = y_1 + y_2$ was the total quantity produced by the two firms in the industry, and p the price paid by buyers, and if each firm (firm #1 and firm #2) could produce the product at zero cost,

(a) What is the equation of firm 2's reaction function, if it chose its own quantity y_2, taking as given firm #1's quantity y_1?

(b) What quantities of the good would each firm produce in the Cournot–Nash equilibrium (when each firm chooses its quantity, taking the other firm's quantity as given)?

more questions overleaf

3. Write down the payoff matrix of the following game :

The players are two sellers, who each have 2 used cell phones to sell. Each seller has no use at all for either of the used cell phones that he or she owns ; he or she wants to sell them. There are 2 identical potential buyers. Each buyer is willing to pay up to $10 for a used cell phone ; each buyer wants to buy at most one phone ; each buyer will buy from the cheapest seller (if the cheapest seller charges a price of $10 or less).

Each seller must choose a price to ask for her or his cell phones : the price must be one of $\{\$5, \$10, \$15\}$. When a seller picks a price, this is a commitment to sell each phone for that price, to whatever buyer is willing to buy. If both sellers choose the same price (of $10 or less), buyer #1 buys from seller #1 and buyer #2 buys from seller #2.

The 2 sellers choose their prices (from the set of possible prices $\{\$5, \$10, \$15\}$) independently, and simultaneously.

[**note** : You are **not** required to solve this game, just to write down the payoff matrix for the game.]

4. Find **all** the Nash equilibria to the game with the following payoff matrix.

	L	M	R
t	$(1,1)$	$(2,1)$	$(3,0)$
b	$(0,0)$	$(5,5)$	$(10,2)$