

Problem 1: State whether each statement is true or false and explain why:

- (a) Monopolistic competition is a market structure with the following characteristics: 1) many competing producers; 2) products are differentiated on the basis of price, quality, marketing, and other attributes; 3) free entry and exit; 4) compete on price, quality, and marketing
- (b) Monopolistic competitive markets may have positive profit and produce at the efficient quantity of output in the long run.
- (c) In monopolistically competitive industries, the demand curve facing a given firm may shift in and become more elastic as more firms enter the market.
- (d) There is no welfare loss in the monopolistically competitive market because free entry.

Problem 2: From the matrix below:

- (a) Find the Nash equilibrium of the game below.
- (b) Does either player have a dominant strategy? If so, what?

		Player2		
		Left	Center	Right
Player1	Up	6,1	45,10	5,0
	Middle	3,5	35,15	0,8
	Down	0,8	10,10	3,7

Problem 3: Ford and Lexus are competing in the market for SUV's. We assume there are no other rivals in the SUV market. The companies are planning to introduce a new model in this fall. They should decide whether to invest lots of money in advertisements or not. The profits of the two firms depend on the joint choice of both firms. The payoff matrix for the firms' interaction of strategies is shown below.

		Lexus	
		Aggressive Advertisement	Normal Advertisement
Ford	Aggressive Advertisement	(7, 7)	(12,5)
	Normal Advertisement	(5,12)	(10,10)

- a) Compute Nash Equilibrium of this game. Dose either firm have a dominant strategy?
- b) What would happen if the firms agreed ahead of time to advertise normally? Would either firm violate the agreement?
- c) Under what conditions might the firms be able to cooperate and have normal advertisement? Explain.

Problem 4: Lars and Hans are the only sellers of cross-country skis in the small town of Nordicville. They both agree that they will earn higher profits if they both sell at a higher price. However, each knows that if the other person charges a high price, then they can steal his business by charging a low price. Thus their payoff (profit) matrix from either charging a high price (H) or a low price (L) is as follows:

		Lars	
		H	L
Hans	H	(10, 10)	(-1, 12)
	L	(12, -1)	(0, 0)

- (a) Suppose the two sellers are both planning to retire after this season. What outcome do you expect from this game?
- (b) Suppose the two sellers are planning to stay in business indefinitely. Each seller makes the following pledge: "I will set a high price until the other guy sets a low price. After that, I will only charge a low price, because I know the other guy can't be trusted." Will each seller keep his pledge?