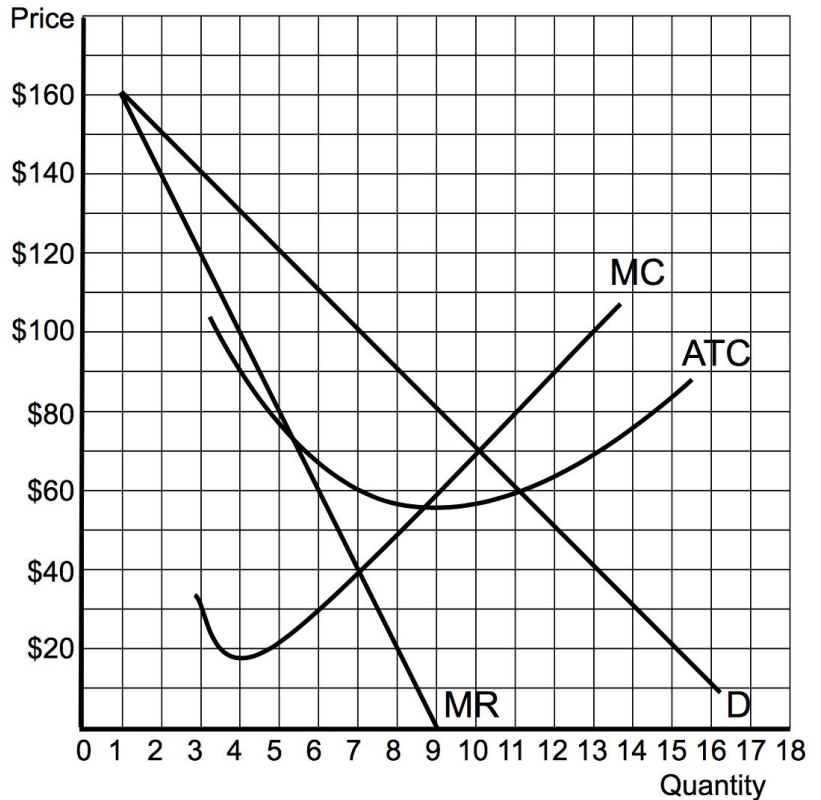




# Microeconomics

## Unit 4 Practice Sheet

**Part 1: Monopoly-** Use the graph of a non-price discriminating monopoly to answer the following questions. Show your work when asked to calculate.



- Identify the profit maximizing price and quantity.
- Calculate the total revenue at the profit maximizing price and quantity.
- Calculate the total cost at the profit maximizing price and quantity.
- Calculate the profit or loss at the profit maximizing price and quantity.
- Calculate the area of deadweight loss.
- Identify the socially optimal (allocatively efficient) price and quantity.
- Identify the price and quantity where the total revenue is maximized.
- At the price of \$120, is the demand relatively elastic, relatively inelastic, or unit elastic? Why?
- Identify the price and quantity if this monopoly's fixed costs increase by \$140.
- Identify the profit maximizing price and quantity if the government levies a \$30 per unit tax on this monopoly.
- Identify the profit maximizing price and quantity if this monopoly figures out a way to perfectly price discriminate.
- Assume instead that the costs of production changed for this monopoly so that the marginal cost (MC) and average total cost (ATC) for every unit was \$80. Under these new circumstances, identify the profit maximizing price and quantity.
- Calculate the new total revenue at the profit maximizing price and quantity.
- Calculate the new total cost at the profit maximizing price and quantity.
- Calculate the new profit or loss at the profit maximizing price and quantity.

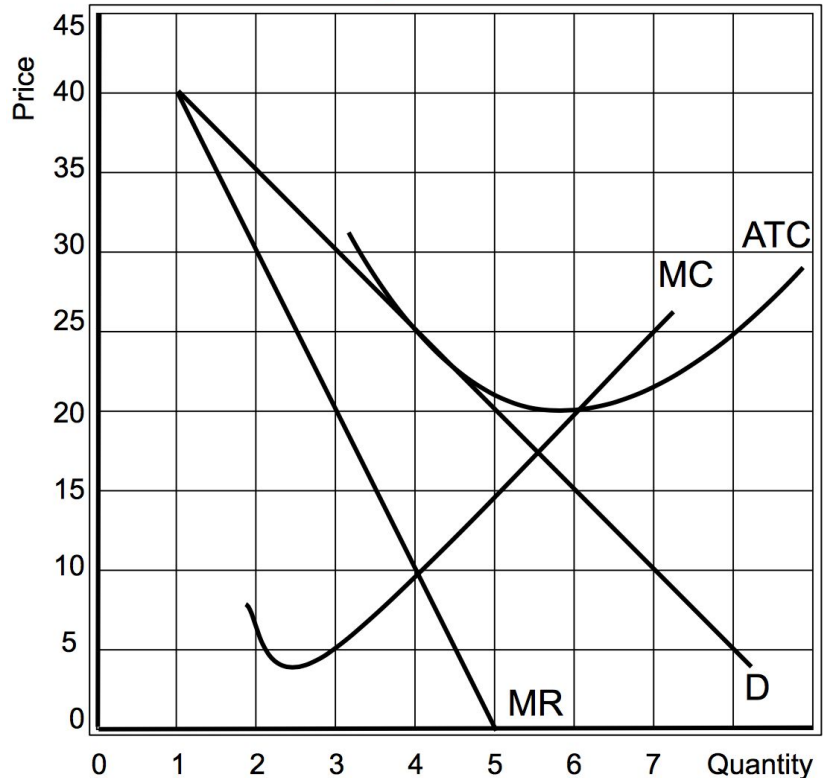


# Microeconomics

## Unit 4 Practice Sheet

**Part 2: Monopolistic Competition-** Use the graph below to answer the following questions.

16. Identify the profit maximizing price and quantity.
17. Calculate the total revenue at the profit maximizing price and quantity.
18. Calculate the profit or loss at the profit maximizing price and quantity.
19. Will the number of firms in the industry increase, decrease, or stay the same in the long run? Explain.
20. Assume the demand decreased. Would profit increase, decrease, or stay the same in the long run? Explain.



21. Is this firm experiencing economies of scale at the profit maximizing quantity? Explain.

**Part 3: Oligopoly-** Use the payoff matrix showing two movie studios, DS and MS, to answer the questions.

22. If both DS and MS make Rated R movies, how much profit will each firm earn?
23. Does DS have a dominant strategy? If so, what is it?
24. Does MS have a dominant strategy? If so, what is it?
25. Given this information, is there a Nash equilibrium? If so, what will each firm decide to do?

		Morvel Studios (MS)	
		Rated R	Rated PG-13
Defective Studios (DS)	Rated R	\$50, \$40	\$70, \$80
	Rated PG-13	\$60, \$30	\$50, \$60

26. Assume instead that these firms decide to collude to maximize profit. What will each firm decide to do?

**Part 4- FRQ Practice-** Complete the following question from the 2019 AP exam (Question 1).



# Microeconomics

## Unit 4 Practice Sheet

---

1. As the only gas station in a small town, FillUp has a local monopoly on the sale of gasoline. FillUp is currently earning positive economic profit.
  - (a) Draw a correctly labeled graph for FillUp and show each of the following.
    - (i) FillUp's profit-maximizing quantity, labeled  $Q_F$
    - (ii) FillUp's profit-maximizing price, labeled  $P_F$
    - (iii) The deadweight loss associated with FillUp's profit-maximizing quantity, shaded completely
    - (iv) The maximum quantity at which FillUp would earn zero economic profit, labeled  $Q_Z$
  - (b) Assume that FillUp's fixed costs increase because of a new lease on its property and FillUp stays in business. Will each of the following increase, decrease, or remain unchanged at FillUp's profit-maximizing quantity?
    - (i) The deadweight loss. Explain.
    - (ii) FillUp's economic profit
  - (c) Assume the demand for gasoline decreases because people bike to work more often.
    - (i) What must be true for FillUp to continue to operate in the short run?
    - (ii) What happens to FillUp's profit-maximizing quantity and price in the short run assuming the firm continues to operate?