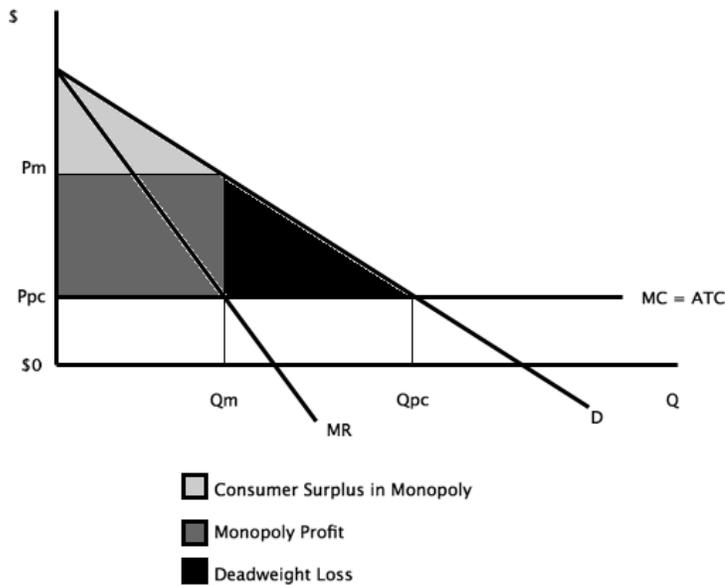




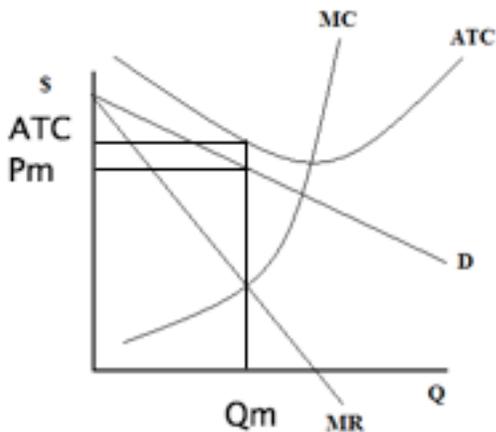
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ECON 102 Wooten – Final Exam – Practice Exam Solutions

1. A monopolist will increase price and decrease quantity to maximize profits when compared to perfect competition because a monopolist will produce where  $MR = MC$



2. Profit will be negative because  $ATC > P$  at the point where  $MR = MC$



3. The firm with the most users will control the market when network externalities are present. In the early days of social media, Facebook controlled the market because it had the most users.
4. Automobiles, Athletic footwear, and Cigarettes
5. If American charges \$420 for tickets to NYC, the airline will be able to sell 2,000 tickets. Total profit will be \$640,000.

$$\text{Profit} = (\$420 - \$100) \times 2,000 = \$640,000$$

If American charges \$135 for tickets to NYC, the airline will be able to sell 3,000 tickets. Total profit will be \$105,000.

$$\text{Profit} = (\$135 - \$100) \times 3,000 = \$105,000$$

If American is able to charge the different customer groups different prices based on their willingness to pay, the total profit will be \$675,000.

$$\text{Profit} = (\$420 - \$100)(2,000) + (\$135 - \$100)(1,000) = \$675,000$$

American will sell as many tickets as it can to the business travelers because they are willing to purchase tickets at the higher price. Business travelers are willing to purchase 2,000 tickets at a price of \$420. The airline still has 1,000 unsold seats at a price of \$420 that it can sell to students for \$135 per ticket. So, the airline will sell the remaining 1,000 tickets to students because the price students are willing to pay is greater than the airlines marginal cost per passenger.

In this example, business travelers have inelastic demand and students have elastic demand.

Business travelers are less sensitive than students to changes in price.

6. The following three conditions must hold true for a firm to be able to price discriminate

1. The firm must face a downward sloping demand curve
2. The firm must be able to easily and cheaply identify buyers or groups of buyers with predictably different elasticities of demand
3. It must be difficult to resell the good

7. Perfect price discrimination is considered to be efficient because the last unit is sold at the point where  $P = MC$ .

Perfect price discrimination converts what was consumer surplus or DWL into producer surplus. There is no DWL with perfect price discrimination.

8.  $HHI = 25^2 \times 4 = 2,500$

Increasing HHI values correspond to (increased) market concentration.

9.  $HHI = 51^2 + 36^2 + 9^2 + 4^2 = 3994$

The third and fourth firms would now be one firm that makes up 13% (9% + 4% = 13%) of the market.

$HHI = 51^2 + 36^2 + 13^2 = 4066$

Post-merger  $HHI > 2500$

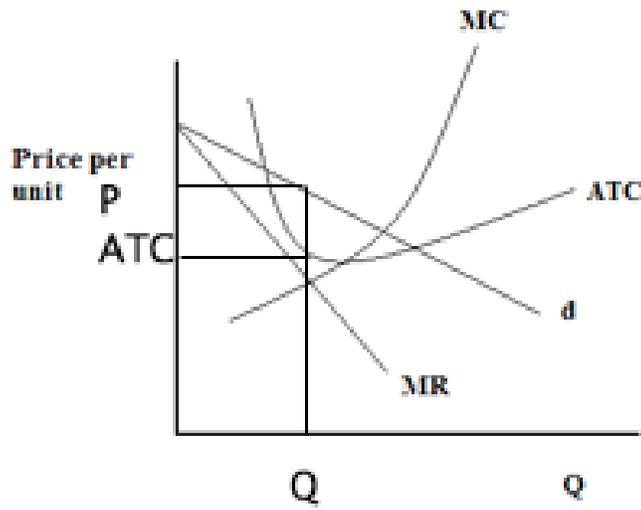
Change in  $HHI = 4066 - 3994 = 72$

Change less than 100 = The government is unlikely to challenge the merger

HHI Value After Merger	Amount by Which Merger Increases HHI	Antitrust Action by Federal Regulators
Less than 1,500	Increase does not matter	Merger will be allowed
Between 1,500 and 2,000	Fewer than 100 points	Merger is unlikely to be challenged
Between 1,500 and 2,000	More than 100 points	Merger may be challenged
Greater than 2,500	Fewer than 100 points	Merger is unlikely to be challenged
Greater than 2,500	Between 100 and 200 points	Merger may be challenged
Greater than 2,500	More than 200 points	Merger is likely to be challenged

10. The players agree to cooperate at first. Then for each subsequent period, players will do what their opponent did in the previous period.

11. The firm is earning a positive economic profit because  $P > ATC$



As this market moves toward a long-run equilibrium, firms will **(enter)** the industry because economic profits are positive.

This will shift the demand curves for existing firms to the **(left)**, and the demand curves of existing firms will become **(more)** elastic.

The new firms in the market will steal customers from the existing firms, which will cause the demand curve to shift to the left for the existing firms. Consumers will now be more sensitive to changes in price because there is additional competition in the market so demand curves will become more elastic.

12. C – Monopolistic competition produces a wider variety of goods but at a higher price.

13. D – Perfect competition assumes that products are homogeneous (identical); however, monopolistic competition assumes products are differentiated.

14.  $HHI = 20^2 \times 5 = 2,000$

Now we have a total of four firms in the industry. Three of the firms are still 20% of the industry, and one firm is now 40% of the industry.

$HHI = 40^2 + (20^2 \times 3) = 2,800$

Post-merger  $HHI > 2500$

Change in  $HHI = 2,800 - 2,000 = 800$

Change  $> 200 =$  Likely challenge

HHI Value After Merger	Amount by Which Merger Increases HHI	Antitrust Action by Federal Regulators
Less than 1,500	Increase does not matter	Merger will be allowed
Between 1,500 and 2,000	Fewer than 100 points	Merger is unlikely to be challenged
Between 1,500 and 2,000	More than 100 points	Merger may be challenged
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Greater than 2,500	Between 100 and 200 points	Merger may be challenged
Greater than 2,500	More than 200 points	Merger is likely to be challenged

15. De Beers controlled most of the world's diamond mines.

16. C – Strategic dependence. The actions of one firm, will directly impact the actions of the other firms in the market.

17. \$30

$MR_5 = TR_5 - TR_4$

$TR_4 = \$80 \times 4 = \$320$

$TR_5 = \$70 \times 5 = \$350$

$MR_5 = \$350 - \$320$

$MR_5 = \$30$

18. B – A strategy that always produces a better outcome than the alternatives

19. B – The difference between the amount an individual is willing to pay for a good and what the individual actually has to pay for the good.

20. 56

We need to set  $MR = MC$ . To find MR, we need to double the slope of the demand equation.

$$P = 6,000 - 50Q$$

$$MR = 6,000 - (2)50Q$$

$$MR = 6,000 - 100Q$$

$$MC = \$400$$

$$MR = MC$$

$$6,000 - 100Q = 400$$

$$5600 = 100Q$$

$$Q = 56$$

21. \$3,200

$$P = 6,000 - 50Q$$

$$P = 6,000 - 50(56)$$

$$P = 3,200$$

22. \$156,800

$$\text{Profit} = (\text{Price} - MC)(Q) - FC$$

$$\text{Profit} = (\$3,200 - \$400)(56) - \$0$$

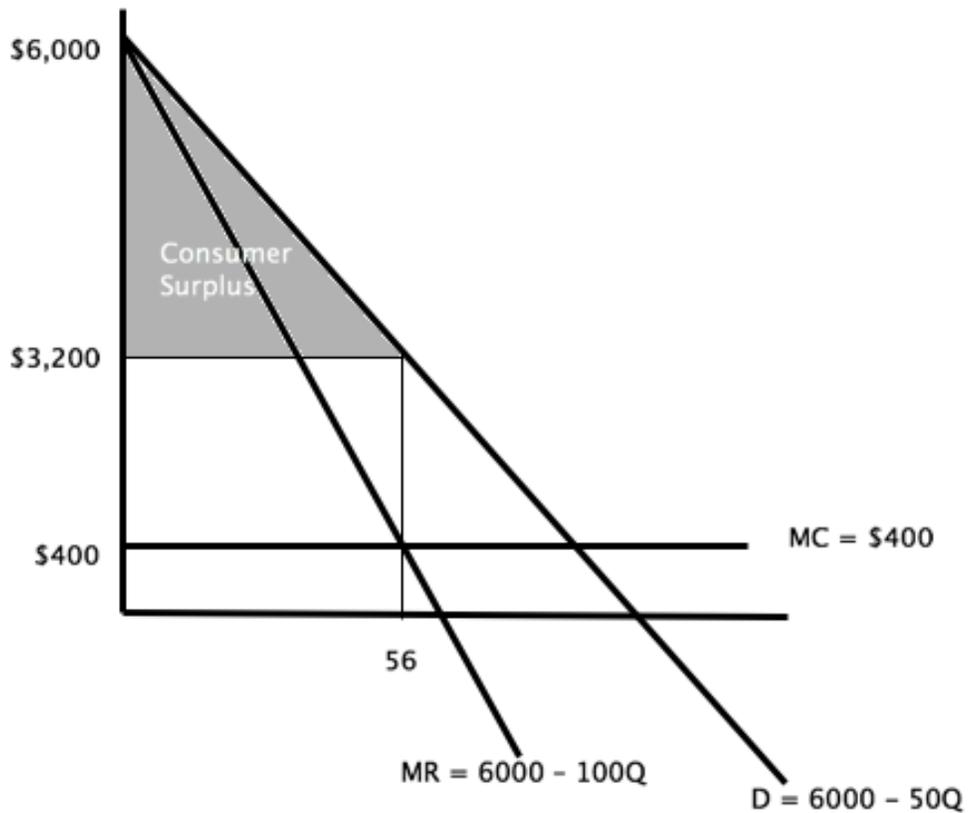
$$\text{Profit} = \$156,800$$

23. 78,400

CS is the area below the demand curve but above the equilibrium price.

$$CS = (1/2)(56)(6,000 - 3,200)$$

$$CS = 78,400$$



24. \$400. In a perfectly competitive market,  $P = MC$ .

25. 112

$$P = MC$$

$$6,000 - 50Q = 400$$

$$5,600 = 50Q$$

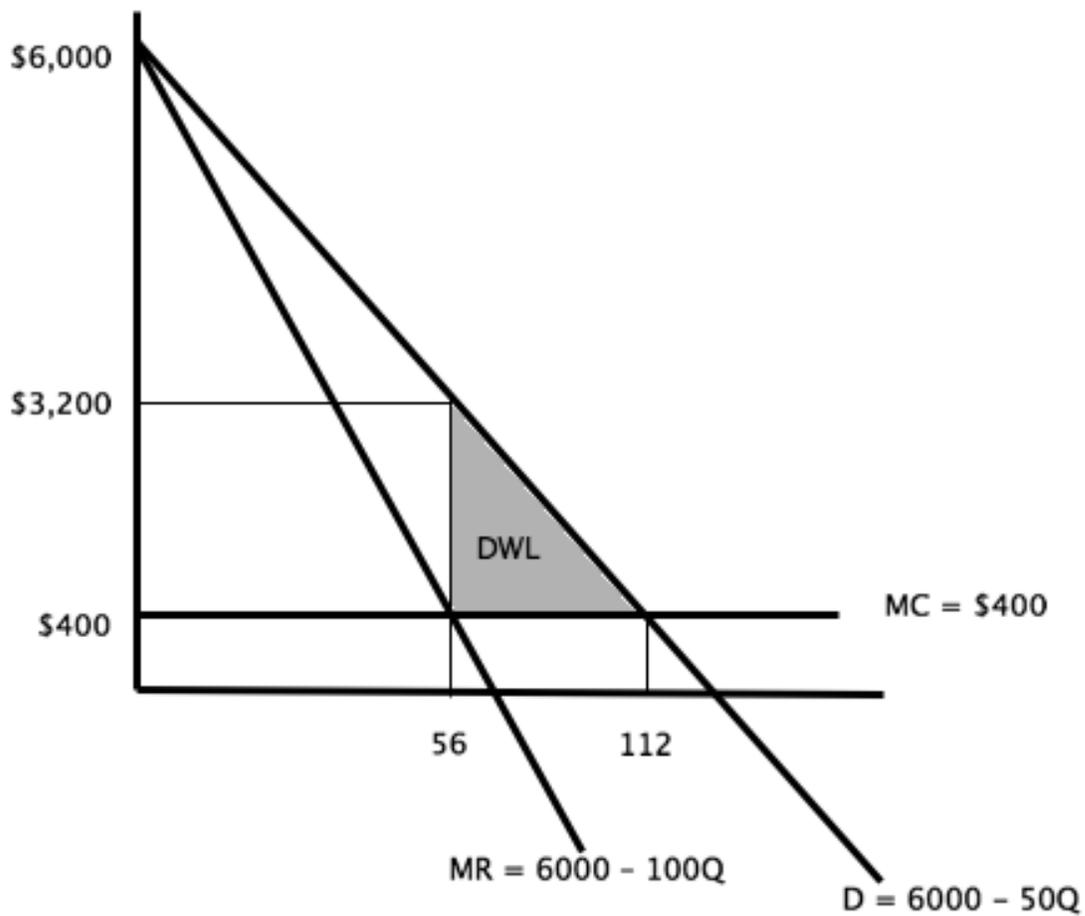
$$Q = 112$$

26. 78,400

DWL is the area where we have producer or consumer surplus under perfect competition; however, we have neither producer or consumer surplus under monopoly.

$$DWL = (1/2)(112 - 56)(3200 - 400)$$

$$DWL = 78,400$$



27. No

What will Firm #1 do if Firm #2 chooses left? Select bottom because  $20 > 16$ .

		Firm #2	
		Left	Right
Firm #1	Top	16	28
	Bottom	20	16

What will Firm #1 do if Firm #2 chooses right? Select top because  $32 > 28$ .

		Firm #2	
		Left	Right
Firm #1	Top		32 36
	Bottom		28 24

Firm #1 does not have a dominant strategy. Firm #1 will go bottom if Firm #2 goes left; however, Firm #1 will go top if Firm #2 goes right.

28. Yes, Right

What will Firm #2 do if Firm #1 chooses top? Select right because  $36 > 28$ .

		Firm #2	
		Left	Right
Firm #1	Top	16 28	32 36
	Bottom		

What will Firm #2 do if Firm #1 chooses bottom? Select right because  $24 > 16$ .

		Firm #2	
		Left	Right
Firm #1	Top		
	Bottom	20 16	28 24

Firm #2 has a dominate strategy to select right. Firm #2 will choose right when Firm #1 chooses top or bottom.

29. Top-Right

		Firm #2			
		Left		Right	
Firm #1	Top	16	28	32	36
	Bottom	20	16	28	24

30. C – This problem has to do with the social costs of monopolies covered in the review. The perfect competition graph doesn't look like this, but if it did we would produce where MC intersects the demand curve. Don't over think why the graph changed, just know if you have a question on perfect competition and see a graph like this perfect competition will produce where  $MC = D$ .
31. A – A monopoly will produce where  $MR = MC$ ; however, you must go up to the demand curve and then over to determine price.
32. D – If you understand the questions above this question should make sense. We put this on the practice exam to show you another way this type of question could be asked.
33. Ownership of resources that do not have a close substitute
34. B – Price discrimination will give the monopolist higher profits than a single price for all customers
35. B – Monopolies always make a profit is false. Monopolies have the ability to earn long-run economic profits; however, they are not guaranteed to earn a profit. Monopolists will only earn a profit if they are able to set price above average total cost. If you have a monopoly on something that nobody wants, you won't be able to earn a profit because you won't have any customers.
36. D – Positive because  $P > ATC$ .

$$\text{Profit} = (\text{Price} - \text{ATC}) \times Q$$

37. D – The market price for their goods is affected by the amount they sell
38. D – Cereal
39. C – There is a tradeoff between product variety and the ability to minimize cost per unit
40. E – P1, Q1 because this is the point where  $MR = MC$ . Make sure to remember you go up to the demand curve and then over to find price.
41. D – P1, A, B, P4 because profit is the difference between price and average total cost multiplied by quantity.
42. B – Q3, P2 because if a firm is able to use perfect price discrimination it will produce all the way to the point where  $P = MC$ . This is the point where the MC curve and demand curve intersect.
43. When firms cooperate without an explicit agreement
44. C – It can be an effective barrier to entry because it increases the cost of competing in the market for firms looking to enter the market
45. D – Only monopolists can earn a profit in the long-run
46. C – Monopolistic competition is more competitive than oligopoly
47. Like all firms in every market structure, they produce at the point where  $MR = MC$ . This is true for all firms in both the short-run and the long-run.
48. C – There are high barriers to entry and firms interact strategically
49. Graph A represents a monopoly demand curve because it is downward sloping but not vertical
50. Graph B represents a perfectly competitive firm because perfectly competitive firms have perfectly elastic demand curves

51. Output = 600. Find the point where MR = MC, and go down to find output.

52. MC = \$2. Find MR = MC, and go over to find MC.

53. TC = \$4,200

$$TC = ATC \times \text{Output}$$

$$TC = \$7 \times 600$$

$$TC = \$4,200$$

54. P = \$5. Find MR = MC. Then go up to the demand curve and THEN over to find price.

55. TR = \$3,000

$$TR = \text{Price} \times \text{Output}$$

$$TR = \$5 \times 600$$

$$TR = \$3,000$$

56. -\$1,200 loss

$$\text{Profit/Loss} = TR - TC$$

$$\text{Profit/Loss} = \$3,000 - \$4,200$$

$$\text{Profit/Loss} = -\$1,200$$

57. Output = 800. Find D = MC, and go down to find output.

58. Price = \$4.20. You are using the point where D = MC, so you simply need to go over to find price because you are already at the demand curve.

59. \$1.75

$$\text{Monopoly ATC} = \$7$$

$$\text{Perfect comp ATC} = \$5.25$$

$$\$7 - \$5.25 = \$1.75$$

