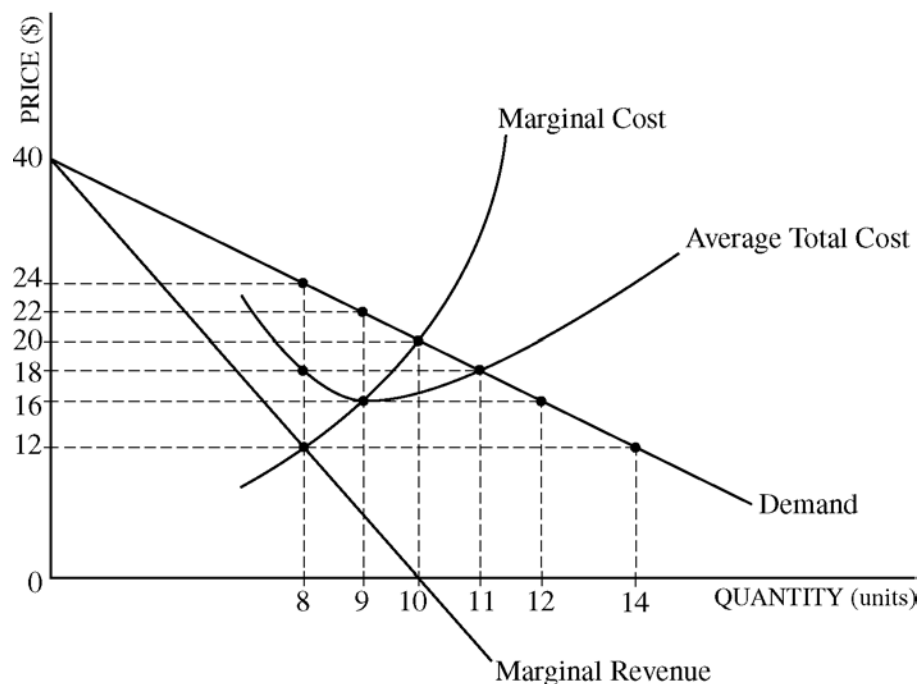


AP[®] MICROECONOMICS 2011 SCORING GUIDELINES

Question 1

10 points (1 + 1 + 1 + 1 + 2 + 2 + 2)



- (a) 1 point:
- One point is earned for identifying the profit-maximizing price as \$24. (\$22 is also acceptable.)
- (b) 1 point:
- One point is earned for identifying the profit per unit as \$6.
- (c) 1 point:
- One point is earned for stating that allocative efficiency is not achieved because price is not equal to MC or MC is not equal to demand.
- (d) 1 point:
- One point is earned for stating that the demand is inelastic because total revenue increases as price increases from \$16 to \$18, or because the price elasticity of demand within the price range is less than 1, or because marginal revenue is negative.
- (e) 2 points:
- One point is earned for indicating that the monopolist is not earning positive economic profit, because price equals average total cost.
 - One point is earned for indicating that the monopolist is earning positive accounting profit.
- (f) 2 points:
- One point is earned for stating that the marginal revenue of the 8th unit is \$22.
 - One point is earned for stating that 9 units will be produced.

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Question 1 (continued)

(g) 2 points:

- One point is earned for stating that 10 units will be produced.
- One point is earned for stating that the consumer surplus is zero.

Write in the box the number of the question you are answering on this page as it is designated in the exam.

1

1A

1 of 2

1. (a) \$24

(b) $AR - AC = 24 - 18 = \boxed{\$6}$

(c) Allocative efficiency is not achieved. Allocative efficiency is only achieved when $P = MC$, which only occurs naturally in perfect competition. When the monopolist maximizes profit, the level of production is less than what society deems optimal.

(d) The monopolist is in the inelastic portion of his demand curve. The point on the curve that corresponds with unit elastic is when $MR = 0$, at the price of \$20. At all prices below \$20, the demand is inelastic. Also from \$18 to \$6, TR declines from \$198 to \$192. If decreasing price, decreases TR, demand is inelastic.

(e) (i) The monopolist is not earning positive economic profit. At an output of 11 units, the price (\$18) is equal to the ATC, so there is zero economic profit ($TR = TC$).

(ii) The monopolist is earning positive accounting profit.

(f) (i) TR w/ 7 units is 22×7 , TR w/ 8 units is 22×8 , so MR of 8th unit is $\boxed{\$22}$

(ii) 9 units will be produced

1.

Write in the box the number of the question you are answering on this page as it is designated in the exam.

1A
2 of 2

(g) (i) 10 units

(ii) 0 consumer surplus

Write in the box the number of the question you are answering on this page as it is designated in the exam.

1

18
10/2

(a) price: \$24

(b) \$24 - \$18 = \$6 / unit

(c) No. Because average total cost is larger than marginal cost, not at the minimum of ATC.

(d)

(d) Inelastic portion.

elasticity of the demand

$$= \frac{\frac{12-11}{11}}{\frac{18-16}{18}} = \frac{\frac{1}{11}}{\frac{2}{18}} = \frac{9}{11} < 1$$

inelastic portion

(e) (i) No. Because ~~economic profit~~ price is equal to average total cost. Costs include implicit cost and explicit cost.

Therefore, economic profit is zero.

(ii) Yes. Because implicit cost is not subtracted when calculating accounting profit.

Write in the box the number of the question you are answering on this page as it is designated in the exam.

1

1B
2 of 2

(f) (i) \$12

(ii) 9 units

(g) (i) 11

(ii) ~~(40 - 18) × 11 × $\frac{1}{2}$ = \$121~~

$$(40 - 18) \times 11 \times \frac{1}{2} = \cancel{\$121} \quad \$121$$

a) \$20

b) $\$24 - \$18 = \$6$ per unit

c) Allocative efficiency is achieved because when the monopolist is maximizing profit, they efficiently allocate resources best.

d) Elastic because elasticity of demand is .5 since as each quantity increases by 1, price decreases by \$2 per unit.

e) i) No, the monopolist is not earning positive economic profit because the price is less than marginal cost so the regulator is not allowing the monopolist to earn a positive economic profit.

ii) No, the monopolist is earning 0 accounting profit because Average Total Cost = the price at 11 units.

f) i) The marginal revenue for the 8th unit is \$6.

ii) 9 units will be produced

g) i) 9 units will be produced

ii) The value of the consumer surplus will be \$54

AP[®] MICROECONOMICS

2011 SCORING COMMENTARY

Question 1

Overview

This question determined students' ability to work with the standard monopoly model. It tested for an understanding of how monopolists establish price and quantity, how profit is identified, and how economic profit differs from accounting profit. It established whether students knew a condition for allocative efficiency and a condition for inelastic demand. It also determined whether students understood the workings of price ceilings and price discrimination.

Sample: 1A

Score: 10

The student answers all parts of the question correctly and so earned all 10 points.

Sample: 1B

Score: 6

The student earned 1 point each for correct answers in parts (a), (b), and (d). The student earned 2 points in part (e) and 1 point in part (f)(ii) for stating that the monopolist would produce nine units of output.

Sample: 1C

Score: 2

The student earned 1 point in part (b) for correctly stating that the profit per unit is \$6 and 1 point in part (f)(ii) for stating that the monopolist would produce nine units of the product.