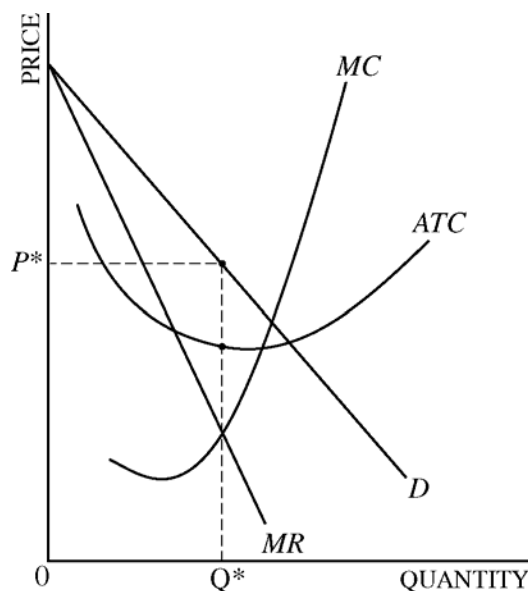# AP® MICROECONOMICS
2007 SCORING GUIDELINES

Question 1

12 points (4 + 3 + 3 + 2)

(a) 4 points:
  - One point is earned for correctly labeled axes and an MR curve below a downward-sloping demand curve.
  - One point is earned for showing profit-maximizing Q at MC=MR.
  - One point is earned for identifying P on the demand curve above Q.
  - One point is earned for showing that P>ATC at Q.
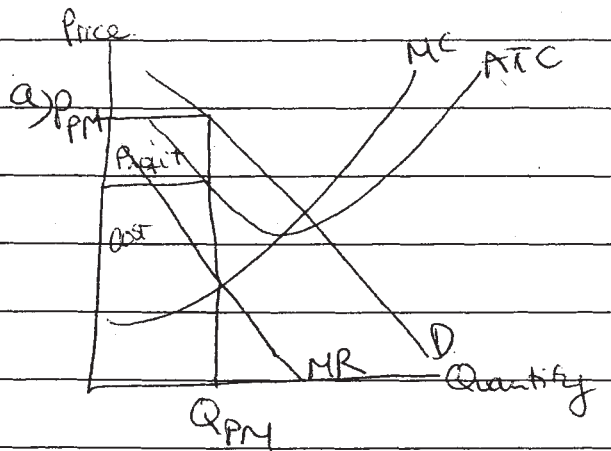
(b) 3 points:
  - One point is earned for concluding that profit-maximizing Q and P will not change.
  - One point is earned for correctly explaining that the lump-sum tax will not affect MC.
  - One point is earned for concluding that profits will decrease.

(c) 3 points:
  - One point is earned for concluding that profit-maximizing Q will increase and P will decrease.
  - One point is earned for explaining that the MC curve shifts down.
 - One point is earned for concluding that profits will increase.

(d) 2 points:
  - One point is earned for concluding that GCR's profits will fall in the long run.
  - One point is earned for stating that new firms will enter the market.

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

① 1A₁

a)

b) (i) Output and Price remain unchanged, because the lumpsum tax affects the fixed cost, and consequently the average total cost only, but does not affect the marginal cost and marginal revenue, Therefore, the profit maximizing output and price wouldn't change.

(ii) Profit goes down (decreasing) because revenue doesn't change (Output & price are unchanged $\Rightarrow R = O \times P$ = unchanged), but cost increases (fixed cost increases $\Rightarrow$ total cost increases), therefore, profit = revenue - cost would decrease.

c)
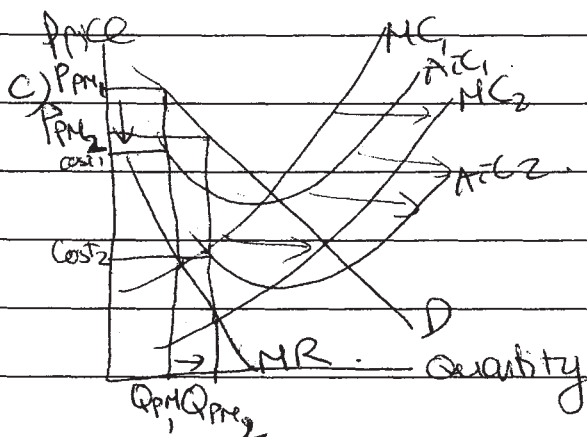
(i) Output increases and price decreases, because the subsidy moves marginal cost curve to the right.

(ii) Profit increases, because cost decreases (subsidied) and revenue increases (from operating in the elastic part of the demand curve, so lower price increases Revenue)
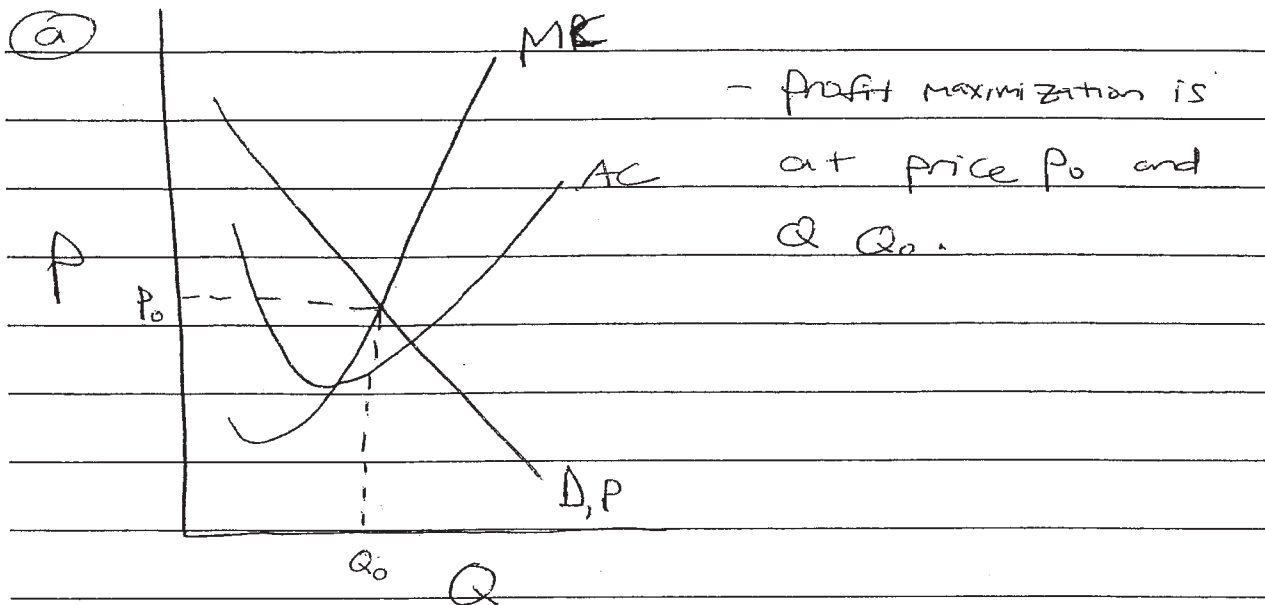
d) Decreases

When the patent expires, every other company may sell Aspy, too, so GCR is not the only seller, and the industry of Aspy is no more a monopoly. Because a monopoly always make the biggest profit, when GCR is no longer the monopoly, it loses its 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.

⓵

ⓐ

MR

AC

P

P_o

D, P

Q_o Q

— profit maximization is at price P_o and Q Q_o.

ⓑ Lump-sum tax on GCR

ⓘ The output will decrease because it will cost more to produce each additional unit. Therefore, the market price will increase due to compensation for loss and an increase in demand.

ⓘⓘ GCR's profits in the short run will decrease because it is producing less output. In the long run, however, it is possible to reach equilibrium again through increase in demand.

ⓒ per-unit subsidy.

ⓘ output will increase because the government is compensating GCR's ~~profits~~ losses through subsidies. Therefore, the market price will increase in an attempt to maximize profits.

| 1 | ②

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

1B₂

©

(II) GCR's profits will increase because they will be selling the product at a higher price with a lower average variable cost.

(d) In the long run, GCR's profits will decrease because the barriers to entry into the market are decreased; therefore creating competition. Since GCR will control less of the market, it will have to lower its prices to compete with other firms, thus decreasing its profit.

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

① 1   1C

a)

MR AATC

P

S

Q
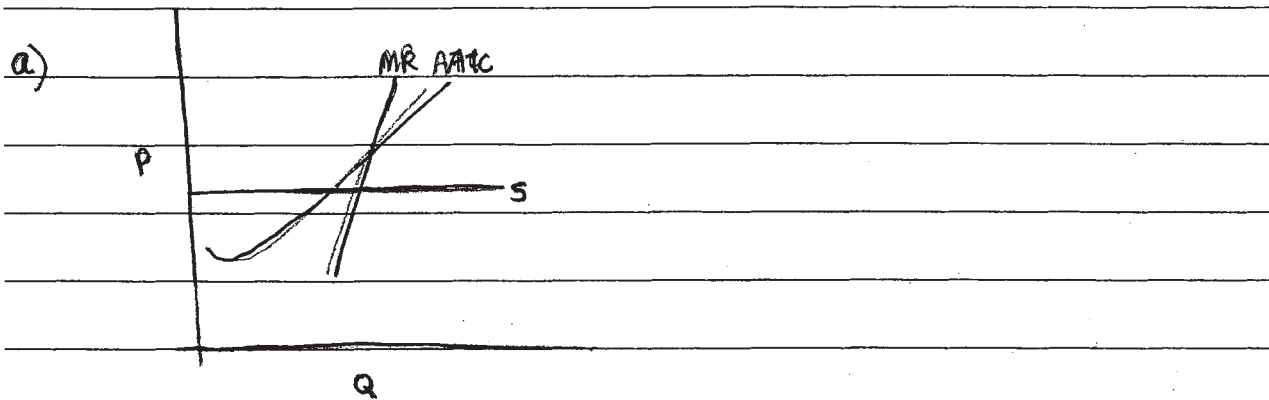
b) i: IF THE GOVERNMENT IMPOSES A LUMP-SUM TAX ON GCR THE OUTPUT WILL

DECLINE AND THE MARKET PRICE WILL GO UP. THE PRICE WILL GO UP AS THE COMPANY

NOW HAS TO COMPENSATE FOR MONEY LOST THROUGH THE TAX.

ii: GCR'S PROFITS WILL GO DOWN DUE TO THE TAX, BECAUSE LESS PEOPLE WILL

BE INCLINED TO BUY THE PRODUCTS AT SUCH A HIGH PRICE AND THE COMPANY

WILL CONTINUE TO PRODUCE LESS.

c) i: IF THE GOVERNMENT GRANTS A PER-UNIT SUBSIDY TO GCR FOR ASpy THE OUTPUT

WILL GO UP AND THE MARKET PRICE WILL GO DOWN. GCR WILL ATTEMPT TO

SELL AS MANY SOFTWARE PRODUCTS AS POSSIBLE IN ORDER TO GAIN EXTRA MONEY

FROM THE SUBSIDY. IF THE PRICE IS LOWER, MORE PEOPLE WILL BUY THUS REQUIRING

GREATER OUTPUT.

D) WHEN THE PATENT EXPIRES, GCR'S ECONOMIC PROFITS WILL GO DOWN SLIGHTLY IN

THE LONG RUN DUE TO COMPETITION, BUT THEY WILL STAY AHEAD DUE TO CONSUMER

FAMILIARITY.

AP® MICROECONOMICS
2007 SCORING COMMENTARY

Question 1

Overview

This question assessed students' ability to recognize and graph a monopoly and to determine the effect of various changes on the output, price, and profits of the monopolist. Part (a) asked students to graph a monopoly that is earning positive economic profits. Parts (b) and (c) required them to determine the effects of, respectively, a lump-sum tax and a per-unit subsidy. In part (d) students had to explain the effect of patent expiration on economic profits.

Sample: 1A
Score: 12

The student earned all points in this question.

Sample: 1B
Score: 6

The student lost 2 points in part (a) for failing to show a marginal revenue curve below demand curve and the profit-maximizing level of output at MR = MC. The student lost 2 points in part (b)(i) for incorrectly concluding that both price and output will change and for not providing the correct explanation. The student lost 2 points in part (c)(i) for incorrectly concluding that price will increase and for not providing the correct explanation.

Sample: 1C
Score: 3

The student earned 1 point in part (b)(ii) for the assertion that profits decrease and 1 point in part (c)(i) for stating the correct directional change in price and quantity. The student earned 1 point in part (d) for correctly noting that profit will decrease.