1. Arzeye Pharma has a patent, a legal barrier to entry, on its newly developed eye treatment that cures common eye problems. Arzeye Pharma is currently earning positive economic profit and is producing the profit-maximizing quantity of eye treatments.

(a) Draw a correctly labeled graph for Arzeye Pharma and show each of the following.

(i) The profit-maximizing quantity of eye treatments, labeled Q^*
(ii) The profit-maximizing price, labeled P^*
(iii) The average total cost curve consistent with positive economic profit, labeled ATC
(iv) The area representing consumer surplus, shaded completely

(b) Suppose Arzeye Pharma wants to charge a price that maximizes its total revenue rather than its profit.

(i) On your graph in part (a), show the revenue-maximizing quantity, labeled Q_R.
(ii) At quantity Q_R identified in part (b)(i), is the demand for eye treatments elastic, inelastic, or unit elastic?

(c) Suppose now that Arzeye Pharma engages in perfect price discrimination.

(i) On your graph in part (a), show the lowest price that Arzeye Pharma would charge, labeled P_2.
(ii) What would happen to consumer surplus? Explain.

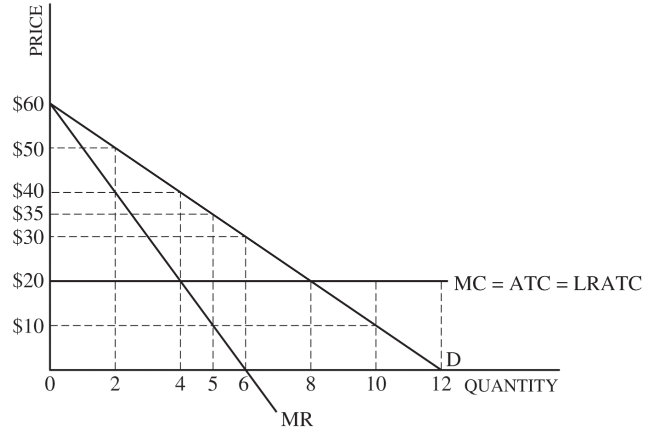
(d) Suppose instead that Arzeye Pharma's patent expires. Will the demand for Arzeye Pharma's treatment become more elastic, become less elastic, or not change? Explain.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

MICROECONOMICS
Section II
Planning time—10 minutes
Writing time—50 minutes

Directions: You have 10 minutes to read all of the questions in this booklet, to sketch graphs, to make notes, and to plan your answers. You will then have 50 minutes to answer all three of the following questions. <u>It is suggested that you spend approximately half your time on the first question and divide the remaining time equally between the next two questions</u>. In answering the questions, you should emphasize the line of reasoning that generated your results; it is not enough to list the results of your analysis. Include correctly labeled diagrams, if useful or required, in explaining your answers. A correctly labeled diagram must have all axes and curves clearly labeled and must show directional changes. <u>Use a pen with black or dark blue ink</u>.

1. The graph below shows the demand curve (D), marginal revenue curve (MR), marginal cost curve (MC), average total cost curve (ATC), and long-run average total cost curve (LRATC) for a monopolist.



(a) Using the numbers given in the graph, identify each of the following for the profit-maximizing monopolist.

(i) The quantity produced
(ii) The price
(iii) The allocatively efficient quantity

(b) At the profit-maximizing quantity from part (a)(i), is the monopolist experiencing economies of scale? Explain.