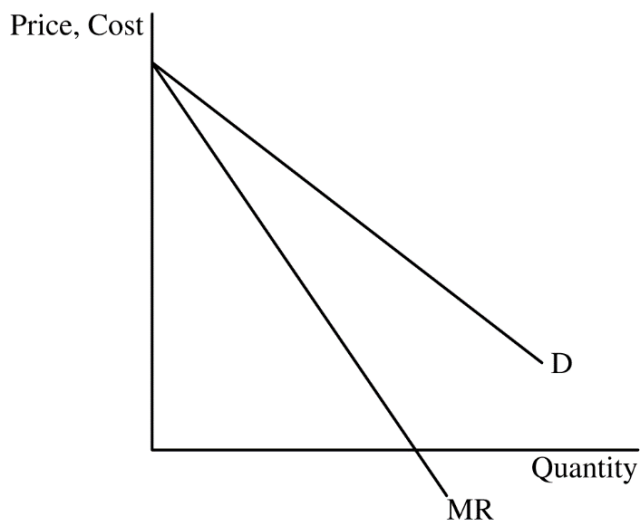
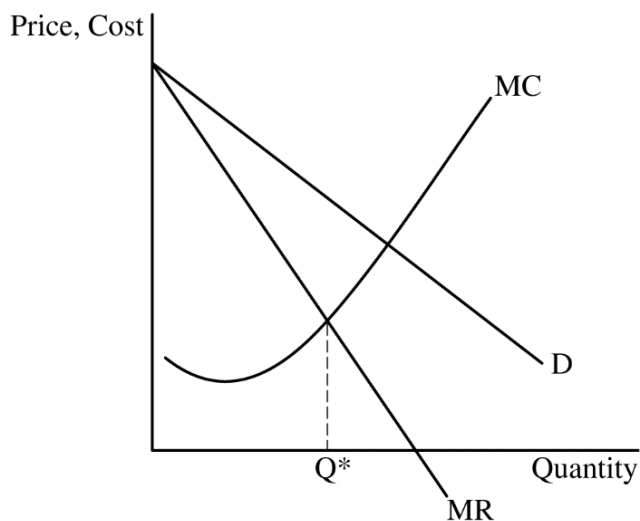


Question 1: Long**10 points**

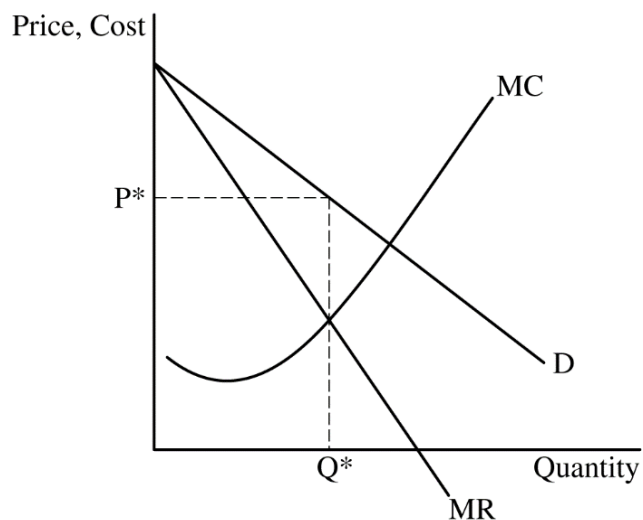
- (a) Draw a correctly labeled graph of Arzeye Pharma with a downward-sloping demand (D) curve and a downward-sloping marginal revenue (MR) curve with the MR curve below the D curve. **1 point**



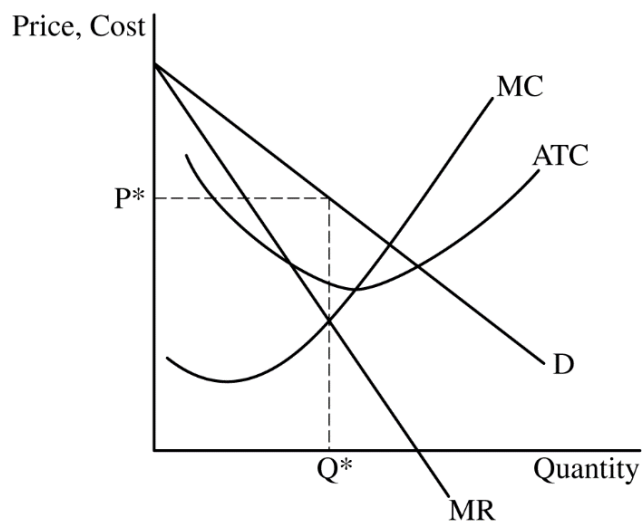
- For the second point, the graph must show a rising marginal cost (MC) curve and the profit-maximizing quantity, labeled Q^* , where $MR = MC$. **1 point**



For the third point, the graph must show the profit-maximizing price, labeled P^* , from the downward-sloping demand curve at Q^* . **1 point**

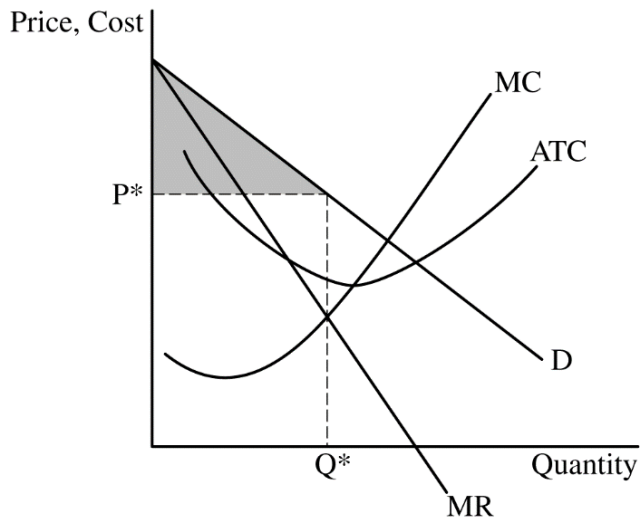


For the fourth point, the graph must show the average total cost (ATC) curve below P^* at Q^* and the marginal cost curve passing through the minimum point of the ATC curve. **1 point**



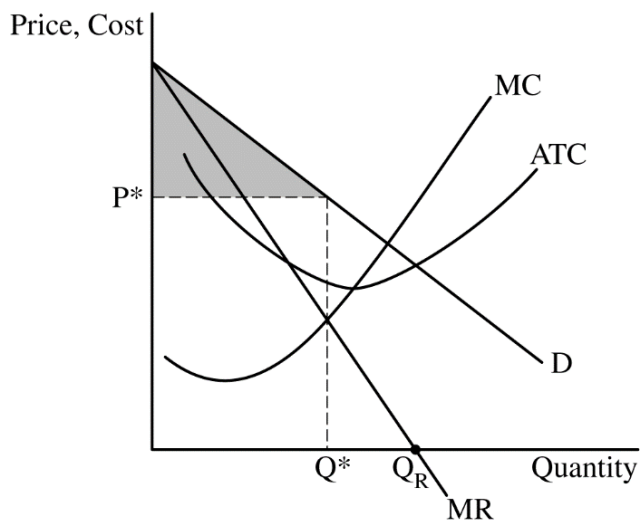
For the fifth point, the graph must show the area of consumer surplus, shaded completely.

1 point



Total for part (a) 5 points

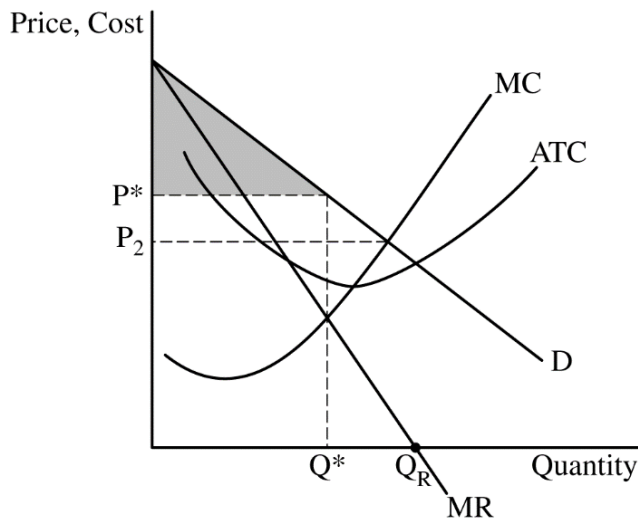
- (b) (i)** The graph from part (a) must show the quantity that maximizes total revenue, labeled Q_R , where marginal revenue equals 0. **1 point**



- (ii)** State that demand is unit elastic. **1 point**

Total for part (b) 2 points

- (c) (i) The graph from part (a) must show the lowest price that Arzeye Pharma would charge if it engaged in perfect price discrimination, labeled P_2 , from the intersection of the demand and marginal cost curves. **1 point**



- (ii) State that consumer surplus would decrease to \$0 and explain that Arzeye is able to charge the maximum price each consumer is willing to pay. **1 point**

Total for part (c) 2 points

- (d) State that Arzeye Pharma's demand will become more elastic and explain that as the patent expires more firms will enter the market which increases the number and availability of substitutes, causing consumers to be more responsive to changes in the price of eye treatments. **1 point**

Total for question 1 10 points