# Assessment Schedule – 2020

## Economics: Demonstrate understanding of the efficiency of different market structures using marginal analysis (91400)

### Assessment Criteria

| Achievement | Achievement with Merit | Achievement with Excellence |
|---|---|---|
| Demonstrating **understanding** of the efficiency of different market structures using marginal analysis involves:<br>• providing an explanation of:<br>- the efficiency of a market structure<br>- the impact of a change in a market on the short and / or long-run pricing and / or output decisions of a firm using marginal analysis<br>- a government policy to improve the efficiency of a monopoly market<br>- pricing and output decisions for perfectly competitive and / or monopolist firms using marginal analysis<br>• using an economic model(s) to illustrate concepts relating to the efficiency of different market structures. | Demonstrating **in-depth understanding** of the efficiency of different market structures using marginal analysis involves:<br>• providing a detailed explanation of:<br>- the efficiency of a market structure<br>- the impact of a change in a market on the short and / or long-run pricing and / or output decisions of a firm using marginal analysis<br>- a government policy to improve the efficiency of a monopoly market<br>- pricing and output decisions for perfectly competitive and / or monopolist firms using marginal analysis<br>• using an economic model(s) to illustrate complex concepts and / or support detailed explanations relating to the efficiency of different market structures. | Demonstrating **comprehensive understanding** of the efficiency of different market structures using marginal analysis involves:<br>• comparing and / or contrasting:<br>- the efficiency of market structures<br>- the impact of a change in a market on the short and long-run pricing and / or output decisions of a firm using marginal analysis<br>- the effectiveness of government policies to improve the efficiency of a monopoly market<br>• integrating an economic model(s) into explanations relating to the efficiency of different market structures. |

## Evidence

| Q1 | Sample evidence | Achievement | Achievement with Merit | Achievement with Excellence |
|---|---|---|---|---|
| (a) | **See Appendix.** | TWO of:<br>- Subnormal profit shaded and labelled.<br>- Market demand curve shifted left and labelled, AND lower price and quantity labelled.<br>- MR = AR line shifted down and labelled.<br>- Lower price and quantity labelled for the firm. | | |
| (b) | Short run:<br><br>A decrease in demand decreases the market price to $P_1$. Firms in perfect competition are price takers because they are too small to influence the market, hence they have to accept the lower market price, $P_1 = P_{SR}$.<br><br>The perfect competitor's MR = AR = D shifts down to $MR_1 = AR_1 = D_1$. At the original output of Q, MC > $MR_1$, the firm is no longer profit maximising as the additional cost in producing one more unit is greater than the additional revenue gained from selling it. Therefore the firm is making marginal losses, and this is true for all units between $Q_{SR}$ and Q. In the short run, the perfect competitor will respond by decreasing output to $Q_{SR}$ where MC = $MR_1$ and profit is maximised (loss minimised).<br><br>In the short run, at output level $Q_{SR}$, a subnormal profit is being made (shaded "grey" on Graph Two). As its TC > TR (or AC > AR), the firm is earning less than sufficient to keep it in the market in the long run. | **Explains:**<br>• The short-run price decreases due to the perfect competitor being a price taker.<br><br>• The short-run output decreases as the MC is greater than $MR_1$, **OR** firm is making marginal losses, **OR** to MC = $MR_1$ where profit is maximised / loss minimised.<br><br>• The short-run economic profit earned is subnormal because AC is greater than the AR, **OR** TC is greater than TR, **OR** the perfect competitor is making less than sufficient to stay in the market. | **Explains, in detail:**<br>• The short-run price decreases due to the perfect competitor being a price taker, too small to influence the market.<br><br>• The short-run output decreases as the MC is greater than $MR_1$ **AND** the firm is making marginal losses **AND** the firm will reduce output to MC = $MR_1$ where profit is maximised / loss minimised.<br><br>• The short-run economic profit earned is subnormal because AC is greater than AR, **OR** as TC is greater than TR **AND** the perfect competitor is making less than sufficient to stay in the market. | **Explains, in detail:**<br>• The short-run price decreases due to the perfect competitor being a price taker, too small to influence the market.<br><br>• The short-run output decreases as the MC is greater than $MR_1$ **AND** the firm is making marginal losses **AND** the firm will reduce output to MC = $MR_1$ where profit is maximised / loss minimised.<br><br>• The short-run economic profit earned is subnormal because AC is greater than AR, **OR** as TC is greater than TR **AND** the perfect competitor is making less than sufficient to stay in the market. |

| Q1 | Sample evidence | Achievement | Achievement with Merit | Achievement with Excellence |
|---|---|---|---|---|
| (c) | **See Appendix.** | TWO of:<br>- MR = AR line shifted up and labelled<br>- Market supply curve shifted left and labelled AND higher price and lower quantity labelled.<br>- Higher price and quantity labelled for the firm | | |
| (d) | Long run:<br>In the long run, as there are no barriers to entry or exit, some firms will leave, reducing market supply (from S to $S_1$).<br><br>This results in market price increasing (from $P_1$ to $P_2$), and because firms in perfect competition are price takers, they will now accept the higher price $P_2 = P_{LR,}$ and their $MR_1 = AR_1 = D_1$ shifts up to $MR_2 = AR_2 = D_2$.<br><br>This means that at the short run output level $q_{SR}$, the firm is no longer profit maximising as $MR_2 > MC$, meaning that the additional revenue generated from selling one more unit is greater than the additional cost incurred in making it. Therefore there are marginal profits to be made, and this is true for all units between $Q_{SR}$ and $Q_{LR.}$ To profit maximise, the firm will increase output from $Q_{SR}$ to $Q_{LR}$ where $MC = MR_2$.<br><br>At this output level, the firm makes normal profit as its TC = TR (or AC = AR), meaning they are earning just sufficient to keep them in the market in the long run, and there is no more incentive to enter or exit the market. | **Explains:**<br>• The subnormal profit means some firms will leave due to no barriers to exit, **OR** reducing market supply.<br>• The perfect competitor accepts the higher price as they are price takers.<br>• The long-run output increases as the $MR_2$ is greater than MC, **OR** the firm is missing out on marginal profits, **OR** the firm will increase output to where the $MC = MR_2$ where profit is maximised.<br>• In the long run the perfect competitor makes normal profit because AC = AR (or TC = TR), **OR** the perfect competitor is making just sufficient to stay in the market, **OR** there is no more incentive to enter / exit the market. | **Explains, in detail:**<br>• The subnormal profit means some firms will leave due to no barriers to exit **AND** reducing market supply.<br>• The higher price means that the perfect competitor's MR = AR = D shifts up as they are price takers.<br>• The long-run output increases as the $MR_2$ is greater than MC ,**AND** the firm is missing out on marginal profits, **AND** the firm will increase output to where the $MC = MR_2$ where profit is maximised.<br>• In the long run the perfect competitor makes normal profit because AC = AR, (or TC = TR), **AND** the perfect competitor is making just sufficient to stay in the market, **OR** there is no more incentive to enter / exit the market. | **Explains, in detail:**<br>• The subnormal profit means some firms will leave due to no barriers to exit **AND** reducing market supply.<br>• The higher price means that the perfect competitor's MR = AR = D shifts up as they are price takers.<br>• The long-run output increases as the $MR_2$ is greater than MC, **AND** the firm is missing out on marginal profits, **AND** the firm will increase output to where the $MC = MR_2$ where profit is maximised.<br>• In the long run the perfect competitor makes normal profit because AC = AR, (or TC = TR), **AND** the perfect competitor is making just sufficient to stay in the market, **OR** there is no more incentive to enter / exit the market. |

| N1 | N2 | A3 | A4 | M5 | M6 | E7 | E8 |
|---|---|---|---|---|---|---|---|
| Very little Achievement evidence. | Some Achievement evidence, partial explanations. | Most Achievement evidence. | Nearly all Achievement evidence. | Some Merit evidence for short run OR long run.<br><br>Must refer to Graph One or Two. | Most Merit evidence for short run OR long run.<br><br>Must refer to Graph One or Two. | Excellence evidence. One part may be weaker.<br>AND<br>Integrates relevant information from both graphs into answer. | All points covered.<br><br>AND<br>Integrates relevant information from both graphs into answer. |

**N0** = No response; no relevant evidence.

| Q2 | Sample evidence | Achievement | Achievement with Merit | Achievement with Excellence |
|---|---|---|---|---|
| (a) | **See Appendix.** | (i) 3 of 4 correct from Table One.<br>(ii) 5 of 6 correct from Table Two. | | |
| (b) | **Impact on consumer surplus**<br>Consumers benefit the most under MC pricing as indicated by the largest area of consumer surplus $AFP_4$. This is because consumers pay the lowest price of $P_4$ (compared to $P_3$ and $P_2$ respectively under AC pricing and profit maximisation), meaning the difference between what the consumers are willing to pay and what they actually pay is the largest.<br><br>Under MC pricing, consumers consume the greatest quantity, $Q_4$, giving consumers the greatest number of units from which to gain surplus (compared to $Q_3$ and $Q_2$ respectively under AC pricing and profit maximisation), therefore this is the most beneficial to consumers of all three options. | **Explains:**<br>Consumers benefit the most under MC pricing because this is the largest area of consumer surplus, **AND** because consumers pay the lowest price, **OR** consumers consume the most units. | **Explains, in detail:**<br>Consumers benefit the most under MC pricing as indicated by the largest area of consumer surplus, **AND** because consumers pay the lowest price, **AND** consumers consume the most units. | **Explains, in detail:**<br>Consumers benefit the most under MC pricing as indicated by the largest area of consumer surplus, **AND** because consumers pay the lowest price, **AND** consumers consume the most units. |
| | AC pricing and profit maximisation are both less beneficial to consumers, although AC pricing is more beneficial than profit maximisation because the price paid by consumers under AC pricing, $P_3$, is lower than $P_2$ under profit maximisation. Also, consumers consume more units under AC pricing, $Q_3$, compared to $Q_2$ under profit maximisation, so the consumer surplus for AC pricing is larger than the consumer surplus for profit maximisation. | Consumers benefit more under AC pricing than profit maximisation, due to consumer surplus area being larger than profit maximisation, **AND** because consumers pay a lower price under AC pricing compared to profit maximisation, **OR** consume more units compared to under profit maximisation. | Under AC pricing consumers benefit less than MC pricing but more than profit maximisation, **AND** the consumer surplus area is larger than profit maximisation (but smaller than MC pricing), **AND** consumers pay a lower price under AC pricing compared to profit maximisation (but a higher price compared to MC pricing), **AND** consume more units compared to under profit maximisation. | Under AC pricing consumers benefit less than MC pricing but more than profit maximisation, **AND** the consumer surplus area is larger than profit maximisation (but smaller than MC pricing), **AND** consumers pay a lower price under AC pricing compared to profit maximisation (but a higher price compared to MC pricing), **AND** consume more units compared to under profit maximisation. |

| Q2 | Sample evidence | Achievement | Achievement with Merit | Achievement with Excellence |
|---|---|---|---|---|
| | Profit maximisation is the least beneficial for consumers as they pay the highest price ($P_2$) and consume the lowest quantity ($Q_2$) out of the three options, hence the consumer surplus is lowest. | Profit maximisation is the least beneficial for consumers due to the smallest consumer surplus, as they pay the highest price, **OR** consume the lowest quantity out of the three options. | Profit maximisation is the least beneficial for consumers due to the smallest consumer surplus, as they pay the highest price, **AND** consume the lowest quantity out of the three options.<br>**OR** | Profit maximisation is the least beneficial for consumers due to the smallest consumer surplus, as they pay the highest price, **AND** consume the lowest quantity out of the three options.<br>**AND** |
| | **Impact on allocative efficiency** | **Explains:** | **Explains, in detail:** | **Explains, in detail:** |
| | • MC pricing is allocatively efficient, with no deadweight loss, therefore the most efficient of all three options. It is allocatively efficient also because that is where demand (AR) equals supply (MC). | • MC pricing is most allocatively efficient as there is no deadweight loss, **OR** it is where demand (AR) equals supply (MC). | • MC pricing is the most allocatively efficient as there is no deadweight loss, **AND** it is where demand (AR) equals supply (MC). | • MC pricing is the most allocatively efficient as there is no deadweight loss, **AND** it is where demand (AR) equals supply (MC). |
| | • AC pricing and profit maximisation are not allocatively efficient as each results in DWL, although AC pricing with a smaller deadweight loss area of EFG is more efficient. Profit maximisation is the least efficient, indicated by the largest DWL area of CFJ. | • AC pricing is not allocatively efficient as DWL exists, **OR** it is where demand (AR) does not equal supply (MC). | • AC pricing is not allocatively efficient as DWL exists, but more efficient compared to profit maximisation as shown by a smaller DWL area, **AND** it is where demand (AR) does not equal supply (MC). | • AC pricing is not allocatively efficient as DWL exists, but more efficient compared to profit maximisation as shown by a smaller DWL area, **AND** it is where demand (AR) does not equal supply (MC). |
| | • Another indication why both AC pricing and profit maximisation are not allocatively efficient is that they are at points where demand (AR) does not equal supply (MC) (or demand is greater than supply). | • Profit maximisation is not allocatively efficient as DWL exists, **OR** it is where demand does not equal supply (or demand is greater than supply). | • Profit maximisation is the least efficient, indicated by the largest DWL area, A**ND** it is where demand (AR) does not equal supply (MC). | • Profit maximisation is the least efficient, indicated by the largest DWL area, **AND** it is where demand (AR) does not equal supply (MC). |

| N1 | N2 | A3 | A4 | M5 | M6 | E7 | E8 |
|---|---|---|---|---|---|---|---|
| Very little Achievement evidence. | Some Achievement evidence, partial explanations. | Most Achievement evidence. | Nearly all Achievement evidence. | Some Merit evidence.<br><br>Must refer to Graph Three or Table One or Two | Most Merit evidence.<br><br>Must refer to Graph Three or Table One or Two | Excellence evidence. One part may be weaker.<br>AND<br>Integrates relevant information from both graphs into the explanation. | All points covered.<br>AND<br>Integrates relevant information from both graphs into the explanation. |

**N0** = No response; no relevant evidence.

| Q3 | Sample evidence | Achievement | Achievement with Merit | Achievement with Excellence |
|---|---|---|---|---|
| (a) | **See Appendix.** | (i) BOTH of:<br>- Pe and Qe labelled.<br>- Supernormal profit shaded and labelled.<br><br>(ii) BOTH of:<br>- $P_1$ and $Q_1$ labelled.<br>- Subnormal profit shaded and labelled. | | |
| (b) | An increase in variable cost increases both MC and AC, shifting both curves up. This means that at the original output of Qe, the monopoly is no longer profit maximising as $MC_1$ > MR i.e. the additional cost of making the last unit is greater than the additional revenue gained from selling it, which means the monopoly is making marginal losses. This is true for all units between Qe and $Q_1$. The monopoly will reduce output to $Q_1$ where $MC_1$ = MR and profit is maximised. | **Explains** that the monopolist will reduce output because of ONE of:<br>- The new MC is greater than the MR.<br>- It is making marginal losses.<br>- To profit maximise, it will decrease output to where $MC_1$ = MR. | **Explains, in detail:**<br>At the original output of $Q_e$, the monopoly is no longer profit maximising as $MC_1$ > MR, **AND** the monopoly is making marginal losses, **AND** the monopoly will reduce output to $Q_1$ where $MC_1$ = MR and profit is maximised. | **Explains, in detail**<br>At the original output of $Q_e$, the monopoly is no longer profit maximising as $MC_1$ > MR, **AND** the monopoly is making marginal losses, **AND** the monopoly will reduce output to $Q_1$ where $MC_1$ = MR and profit is maximised. |
| (c) | **Before increase in variable cost**<br><br>Prior to the increase in variable cost, the monopolist's profit maximisation price is at $P_e$. At profit maximisation, where MC = MR, the monopoly is a price maker/able to control price or quantity and is able to charge a high price of $P_e$ (which equals AR at $Q_e$). This is due to it being the sole seller in the market and supplying the entire market, meaning the AR curve represents the market demand.<br><br>It makes a supernormal profit (shaded "pink" on Graph Four), as its operating where AR > AC (or TR > TC), meaning they are earning more than sufficient return to keep them in the market. | **Explains:**<br>• The price is set at $P_e$ because at profit maximising output $Q_e$ (where MC = MR) the AR equals $P_e$, **OR** the monopoly is a price maker / able to control price or quantity.<br>• a supernormal profit is being made as AR > AC (or TR = TC), **OR** the monopoly is earning more than sufficient to keep them in the market. | **Explains, in detail:**<br>• The price is set at $P_e$ because at profit maximising output $Q_e$ (where MC = MR) the AR equals $P_e$, **AND** the monopoly is a price maker / able to control price or quantity.<br>• It makes a supernormal profit because AR > AC, (or TR >TC) **AND** the monopolist is earning more than sufficient to keep them in the market. | **Explains, in detail:**<br>• The price is set at $P_e$ because at profit maximising output $Q_e$ (where MC = MR) the AR equals $P_e$, **AND** the monopoly is a price maker / able to control price or quantity.<br>• It makes a supernormal profit because AR > AC, (or TR >TC) **AND** the monopolist is earning more than sufficient to keep them in the market. |

| Q3 | Sample evidence | Achievement | Achievement with Merit | Achievement with Excellence |
|---|---|---|---|---|
| | In the long run, the supernormal profit will remain as there are strong barriers to entry (such as patents, technological know-how, high set up costs) that will prevent new firms entering the market to increase supply and therefore preventing them from pushing down the price. | • The supernormal profit will remain due to strong barriers to entry. | • In the long run, the supernormal profit will remain as there are strong barriers to entry (such as patents, technological know-how, high set up costs) that will prevent new firms entering the market to increase supply and pushing down the price.<br>**OR** | • In the long run, the supernormal profit will remain as there are strong barriers to entry (such as patents, technological know-how, high set up costs) that will prevent new firms entering the market to increase supply and pushing down the price.<br>**AND** |
| | **After increase in variable cost**<br>An increase in variable cost raises both MC and AC. Profit maximisation price increases from $P_e$ to $P_1$ (which equals AR at $Q_1$) as the monopoly is a price maker. Being the only seller in the market, it has strong control over the price or quantity. In this instance, by reducing quantity from $Q_e$ to $Q_1$, it is able to charge a higher price of $P_1$.<br>However, due to the increase in variable cost, the monopolist now makes a subnormal profit, (shaded "blue" on Graph Five), as its TC > TR (or AC > AR).<br>In the long run, if costs and revenue do not change, the monopolist will leave the industry, as total revenue is less than total economic costs, so they are earning less than is sufficient to keep them in the market. | **Explains:**<br>• The price increases because it is a price maker / has strong control over price or quantity **OR** by reducing quantity from $Q_e$ to $Q_1$, it is able to charge a higher price of $P_1$.<br>• A subnormal profit is being made as its AC > AR (or TC > TR), **OR** the monopolist is earning less than sufficient to keep them in the market **OR** in the long run, if costs do not change, the monopolist will leave the industry. | **Explains, in detail:**<br>• The price increases because it is a price maker / has strong control over price or quantity **AND** by reducing quantity from $Q_e$ to $Q_1$, it is able to charge a higher price of $P_1$.<br>• However, due to the increase in variable cost, the monopolist now makes a subnormal profit, as its AR < AC (or TC > TR), **OR** the monopolist is earning less than sufficient to keep them in the market, **AND** in the long run, if costs do not change, the monopolist will leave the industry. | **Explains, in detail:**<br>• The price increases because it is a price maker / has strong control over price or quantity **AND** by reducing quantity from $Q_e$ to $Q_1$, it is able to charge a higher price of $P_1$.<br>• However, due to the increase in variable cost, the monopolist now makes a subnormal profit, as its AR < AC (or TC > TR), **AND** the monopolist is earning less than sufficient to keep them in the market, **AND** in the long run, if costs do not change, the monopolist will leave the industry. |

| N1 | N2 | A3 | A4 | M5 | M6 | E7 | E8 |
|---|---|---|---|---|---|---|---|
| Very little Achievement evidence. | Some Achievement evidence, partial explanations. | Most Achievement evidence. | Nearly all Achievement evidence. | Some Merit evidence.<br><br>Must refer to Graph Four or Five | Most Merit evidence.<br><br>Must refer to Graph Four or Five | Excellence evidence. One part may be weaker.<br>AND<br>Integrates relevant information from both graphs into the explanation. | All points covered.<br>AND<br>Integrates relevant information from both graphs into the explanation. |

**N0** = No response; no relevant evidence.

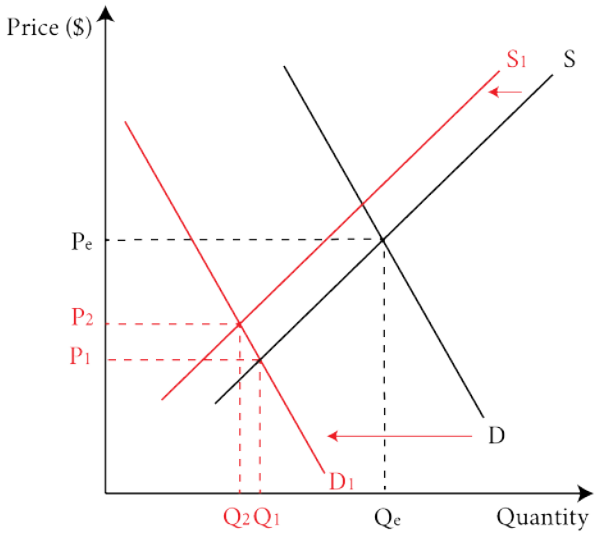
## Cut Scores

| Not Achieved | Achievement | Achievement with Merit | Achievement with Excellence |
|---|---|---|---|
| 0 – 6 | 7 – 12 | 13 – 18 | 19 – 24 |

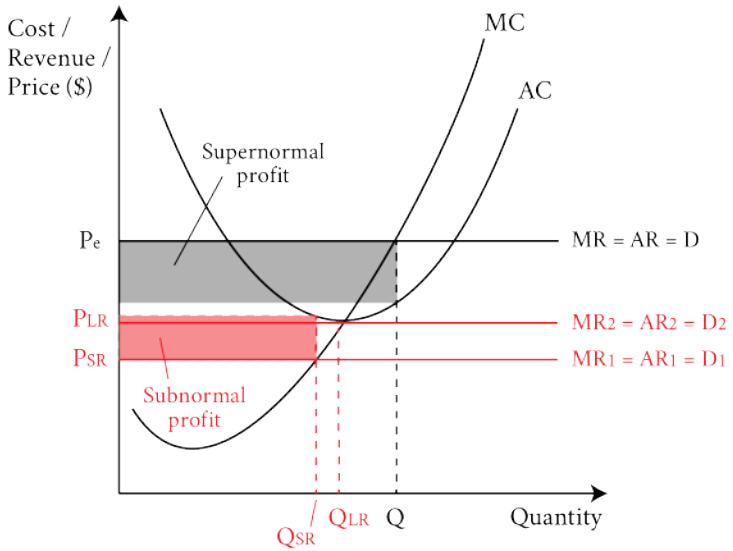
## Appendix

### Question One (a)(i), (ii), (iii) and (c)(i) and (ii)

**Graph One: Perfect competition market**




**Graph Two: A perfectly competitive firm**




### Question Two (a)(i)

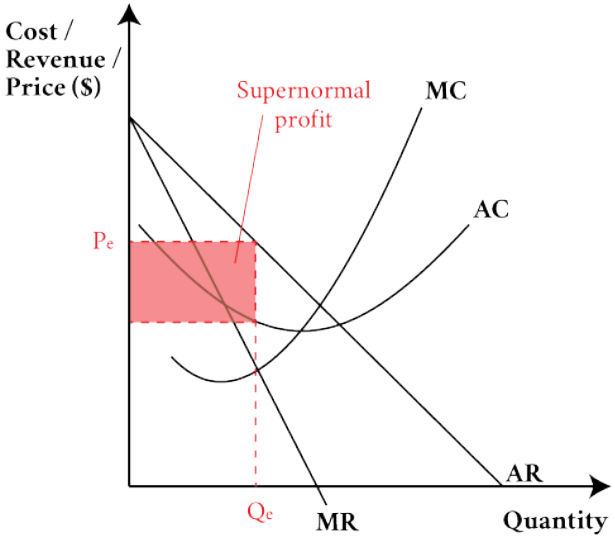
| Type of pricing | Consumer surplus | Deadweight loss |
|---|---|---|
| Profit maximisation | a c P2 | c f j |
| Average cost pricing | a e P3 | e f g |
| Marginal cost pricing | a f P4 | None (zero) |

### Question Two (a)(ii)

| Type of pricing | Price | Output | Type of profit |
|---|---|---|---|
| Profit maximisation | P2 | Q2 | Supernormal |
| Average cost pricing | P3 | Q3 | Normal |
| Marginal cost pricing | P4 | Q4 | Subnormal |

**Question Three (a)(i) and (ii)**

Graph Four: Monopoly before an increase in variable costs




Graph Five: Monopoly after an increase in variable costs