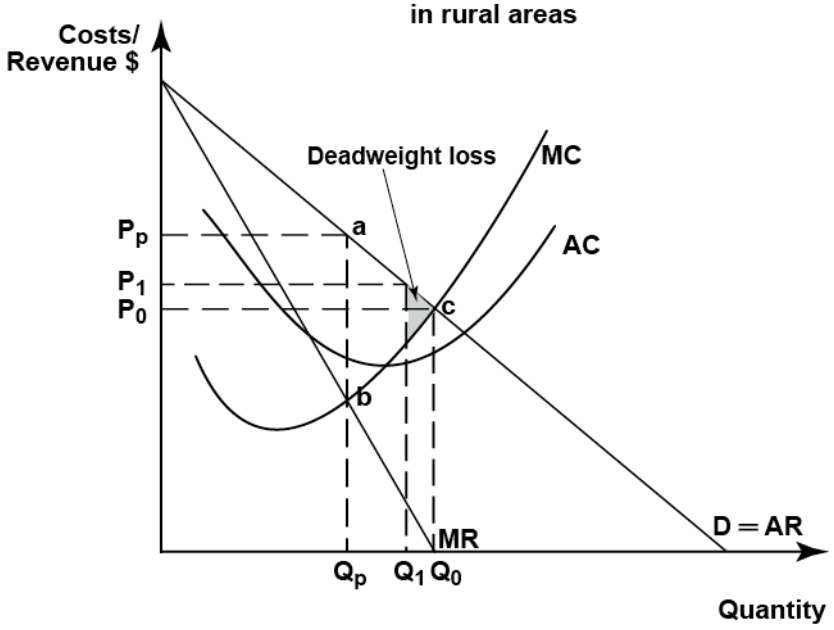
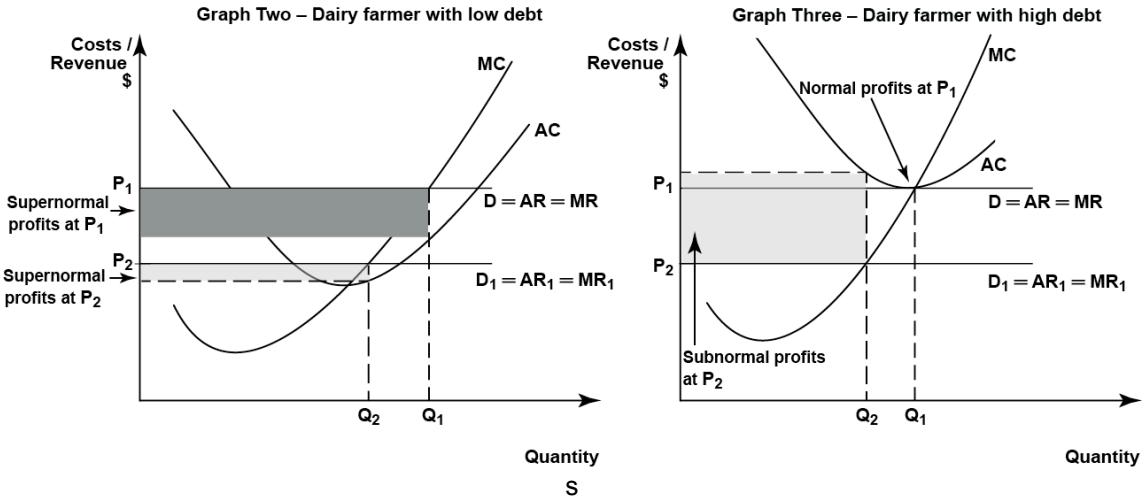
Assessment Schedule – 2013
Economics: Demonstrate understanding of the efficiency of different market structures using marginal analysis (91400)
Evidence Statement

Question	Evidence
ONE (a) (b)	**Graph One – The market for fixed phone lines in rural areas** 
(c)	At P_0, the market is allocatively efficient, as the sum of the gains to consumers and producers is maximised. As long as the market is in equilibrium, it is allocatively efficient. Market equilibrium in Graph One occurs where MC (S) = AR (D). Because the monopolist restricts the quantity to where profits are maximised (MC = MR), at P_p the total of consumer surplus (CS) + producer surplus (PS) is reduced from what it would be if it is left at P_0. Although the producer gains extra surplus from the higher price, it is less than the combined loss of surplus to the producer from less sales, plus the loss to the consumer of less consumption at a higher price. By setting the price at P_1, the price would be lower than the monopolist would choose, to maximise profits – but it would be above the market equilibrium price. It would mean the quantity would be higher than the monopolist would choose, to maximise profits – but it would be below the market equilibrium quantity. In this way, the deadweight loss would fall to the shaded area on the graph, which is smaller than the deadweight loss (abc), that would exist if the monopolist chose his / her own price or quantity, thus making the market more efficient. P_0 is the ideal – as no deadweight loss would occur, and the market would be allocatively efficient. Some regulation is needed by the Commerce Commission, otherwise the monopolist will stay at P_p, and would remain there, as strong barriers will stop others entering the market. The price (P_1) is an improvement in efficiency over P_p, so it would be a good idea. P_0 is the best overall price to maximise efficiency.

N1	N2	A3	A4	M5	M6	E7	E8
On the graph, ONE of: • Qp, Pp, Q_0 *OR* P_0.	On the graph, ONE of: • a Qp – Pp combination *OR* • a Q_0 – P_0 combination.	Understanding involves: • identifying Q_0 P_0 on the graph • identifying Q_p P_p on the graph • shading DWL on the graph *OR* explaining DWL area (eg abc) • explaining why allocative efficiency occurs at P_0 Some parts may be incomplete.	Understanding involves: • identifying Q_0 P_0 on the graph • identifying Q_p P_p on the graph • shading DWL on the graph *OR* explaining DWL area (eg abc) • explaining why allocative efficiency occurs at P_0	In-depth understanding involves: • explaining why P_0 is most efficient • explaining in detail, the effect of P_1 on efficiency by shifting from P_p • explaining the impact on Q of P_1 regulation. • referring to the graph to support answers (refers to direction of changes from one point to another, identifies areas). Some parts may lack detail or are incomplete.	In-depth understanding involves: • explaining why P_0 is most efficient • explaining in detail, the effect of P_1 on efficiency by shifting from P_p • explaining the impact on Q of P_1 regulation. • referring to the graph to support answers (refers to direction of changes from one point to another, identifies areas).	Comprehensive understanding involves: • comparing or contrasting P_1 with P_p *OR* P_0 in terms of the impact on efficiency. Includes discussion of which is the best point by considering overall impact on efficiency • explaining in detail why the Commerce Commission needs to regulate at P1 • integrating the graph into the discussion by using the points, shading, or extra labelling to clearly show comparisons between the price options. Some parts may lack detail or are incomplete.	Comprehensive understanding involves: • comparing or contrasting P_1 with P_p, *AND* P_0 in terms of the impact on efficiency. Includes discussion of which is the best point by considering overall impact on efficiency • explaining in detail why the Commerce Commission needs to regulate at P1 (*referring to the features of a monopoly*) • integrating the graph into the discussion by using the points, shading, or extra labelling to clearly show comparisons between the price options.

N0 = No response; no relevant evidence.

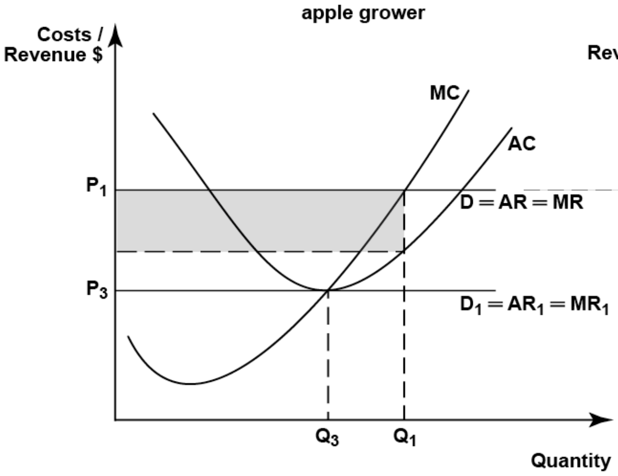
Question	Evidence
TWO (a)	 S
(b)	With the fall in price to P_2, the farmers with low debt and farmers with high debt will lower output to Q_2. This is as at Q_1 – the MC is now higher than MR_1, meaning marginal losses occur. This is true for all output levels between Q_1 and Q_2, so they reduce output to Q_2, to continue to maximise profits.
(c)	For the farmer with low debt, the large supernormal profits at P_1, as shown in Graph Two, has fallen to the smaller supernormal profits at P_2. In comparison, the farmer with high debt in Graph Three has gone from having normal profits to making subnormal profits at P_2, as shown by the shaded area in Graph Three. This is because he has higher average costs due to higher fixed costs in debt servicing. This pushes up total costs, and therefore, average costs. This means that he could make a higher level of profit for his investment in other industries (eg vineyards), as those industries become relatively more profitable. So in the long run, the dairy farmer with high debt will leave the market (which is easy to do with perfect competition, as there are no barriers to exit) if he doesn't believe the situation will change.

N1	N2	A3	A4	M5	M6	E7	E8
ONE of: On EITHER graph – • labels Q_1 correctly • identifies new D_1=MR_1=AR_1 • identifies types of profit made by either farmer • identifies output which will be produced at lower price.	TWO of : On EITHER graph – • labels Q_1 correctly • identifies new D_1=MR_1=AR_1 • identifies types of profit made by either farmer • identifies output which will be produced at lower price.	Understanding involves: • identifying Q_1 correctly on EITHER graph • identifying Q2 correctly with correct new D_1=MR_1=AR_1 shown on EITHER graph • explaining the changes in output using marginal analysis • explaining the types of profit • some reference to the graph. Some parts may be incomplete.	Understanding involves: • identifying Q_1 correctly on EITHER graph • identifying Q2 correctly with correct new D_1=MR_1=AR_1 shown on EITHER graph • explaining the changes in output using marginal analysis • explaining the types of profit • some reference to the graph.	In-depth understanding involves: • explaining in detail changes from Q_1 to Q_2, by using marginal analysis (for EITHER graph). Q_1, Q_2 and new D_1=MR_1=AR_1 correctly identified. (*Reference made to quantities between Q_1 and Q_2)* • explaining in detail types of profit for EITHER farmer in relation to the graph by correct labelling, shading, or comparing AC and AR at Q_1 and Q_2 • referring to the graph to support explanations. Some parts may lack detail or are incomplete.	In-depth understanding involves: • explaining in detail changes from Q_1 to Q_2, by using marginal analysis (for EITHER graph). Q_1, Q_2 and new D_1=MR_1=AR_1 correctly identified. *(Reference made to quantities between Q_1 and Q_2)* • explaining in detail types of profit for EITHER farmer in relation to the graph by correct labelling, shading, or comparing AC and AR at Q_1 and Q_2 • referring to the graph to support explanations.	Comprehensive understanding involves comparing and contrasting between both farmers by: • explaining in detail changes from Q_1 to Q_2, by using marginal analysis • explaining why low debt farmer makes supernormal profits at Q_1 while high debt farmer makes normal profits at Q_1 *(due to higher AC and fixed costs)* • explaining the change in profits for each farmer • explaining why high debt farmer will leave the market • integrating graphs to support explanations. Some parts may lack detail or are incomplete.	Comprehensive understanding involves comparing and contrasting between both farmers by: • explaining in detail changes from Q_1 to Q_2, by using marginal analysis, referring to MR_1 • explaining why low debt farmer makes supernormal profits at Q_1 while high debt farmer makes normal profits at Q_1 *(due to higher AC and fixed costs)* • explaining the change in profits for each farmer • explaining why high debt farmer will leave the market • integrating graphs to support explanations.

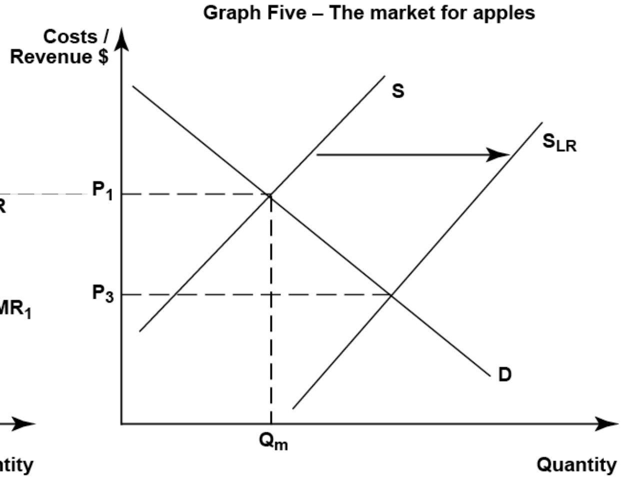
N0 = No response; no relevant evidence.

<table>
<tr><th>Question</th><th>Evidence</th></tr>
<tr><td>THREE
(a)
(b)</td><td>

Graph Four – The perfectly competitive apple grower



Graph Five – The market for apples



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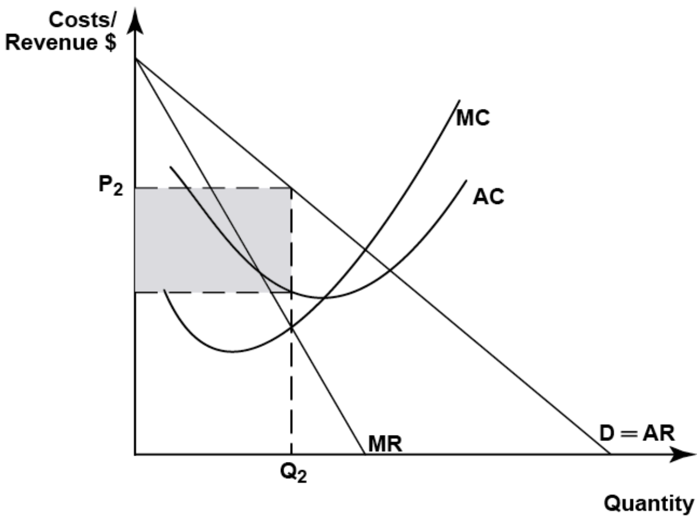
<tr><td>(c)</td><td>

Graph Six – The monopolist



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<tr><td>(d)</td><td>

The perfect competitor is a price taker, as there are many sellers in the market – all producing identical products. So they cannot influence the price.

The price is set in the market (Graph Five), where S = D (P_1). This is the price that the perfect competitor must accept. This is shown in Graph Four by the horizontal demand / MR curve D = AR = MR.

For the monopolist, they are the only producer in the market – so by changing quantity, they influence price. This is shown by the downward-sloping demand curve in Graph Six.

They choose Q_2 as here MC = MR, and profits are maximised for the same reason as the perfect competitor. The consumers (demand) then determine what price they are willing to pay for this quantity (P_2).

Both the perfect competitor and the monopolist choose to produce where MC = MR, where they maximise profits. This is because at any quantity – before Q_1 for the perfect competitor, and Q_2 for the monopolist – the marginal revenue is greater than the marginal cost.

So producing more units increases profits. This is maximised at Q_1 for the perfect competitor, and Q_2 for the monopolist – as after this MC > MR. So producing more will reduce overall profits.

At Q_1 for the perfect competitor and Q_2 for the monopolist, both producers are making supernormal profits (shaded area on Graphs Four and Six) – as their costs (AC) are less than their revenue (AR) for the quantity Q_1 for the perfect competitor, and Q_2 for the monopolist.

This means that there are better profits in these markets than in the next best alternative, and producers in the next best alternative will want to enter this market to get the better profits.

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	For the perfect competitor, new producers can enter the market, as there are no barriers to entry. This means that market supply in Graph Five shifts in the long run to $S_{LR,}$ causing the market price to fall. Since the perfect competitor accepts the market price, the price they receive also falls (as does their MR). Since MR is now less than MC at Q_1, they will not want to produce this quantity – as it reduces profits (marginal loss made). This is true for all units between Q_1 and Q_3, and the quantity supplied by the perfect competitor will fall to Q_3. The perfect competitor now makes normal profits (AC = AR) at Q_3, so no one wants to enter or leave the market. Normal profit is sufficient to keep the perfect competitor in business. So the perfect competitor can only make supernormal profits in the short run, due to no barriers to entry. In comparison, the monopolist has strong barriers to entry. This means those who wish to enter the market to get the supernormal profits are unable to. This could be due to legal barriers, like patents. The monopolist can continue to make supernormal profits in the long run, as no change will occur in the market due to the strong barriers.

N1	N2	A3	A4	M5	M6	E7	E8
TWO of : • shows D = AR = MR correctly on Graph Four • labels profit maximising price for EITHER the perfect competitor or the monopolist • labels profit maximising quantity for EITHER the perfect competitor or the monopolist • places AC correctly on *EITHER* Graph Four *OR* Six • identifies that monopolist is a price maker but perfect competitor is a price taker.	THREE of: • shows D = AR = MR correctly on Graph Four • labels profit maximising price for EITHER the perfect competitor or the monopolist • labels profit maximising quantity for EITHER the perfect competitor or the monopolist • places AC correctly on *EITHER* Graph Four *OR* Six • identifies that monopolist is a price maker but perfect competitor is a price taker.	Understanding involves: • showing D = AR = MR correctly on Graph Four • labelling profit maximising price and quantity for *EITHER* the perfect competitor *OR* the monopolist • explaining that monopolist sets quantity and demand determines price OR explaining that perfect competitor has price set by market *(and then chooses quantity based on this)* • explaining that others will enter the market if supernormal profits are made for PC due to no barriers to entry • explaining that others cannot enter the market if supernormal profits are made for monopolist due to strong	Understanding involves: • showing D = AR = MR correctly on Graph Four • labelling profit maximising price and quantity for *EITHER* the perfect competitor *OR* the monopolist • explaining that monopolist sets quantity and demand determines price OR explaining that perfect competitor has price set by market *(and then chooses quantity based on this)* • explaining that others will enter the market if supernormal profits are made for PC due to no barriers to entry • explaining that others cannot enter the market if supernormal profits are made for monopolist due to strong	In-depth understanding involves: • showing D = AR = MR correctly on Graph Four • correctly placing AC on *BOTH* graphs to have supernormal profits • explaining in detail why profit is maximised at MC = MR (profit maximizing rule) • explaining that monopolist sets quantity and demand determines price (price maker) ***OR*** perfect competitor has price set by market (price taker) and then chooses quantity based on this • explaining that others will enter the market if supernormal profits are made for PC due to no barriers to entry. Shifts Supply in market to right. Shows	In-depth understanding involves: • showing D = AR = MR correctly on Graph Four • correctly placing AC on *BOTH* graphs to have supernormal profits • explaining in detail why profit is maximised at MC = MR (profit maximizing rule) • explaining that monopolist sets quantity and demand determines price (price maker) ***OR*** perfect competitor has price set by market (price taker) and then chooses quantity based on this • explaining that others will enter the market if supernormal profits are made for PC due to no barriers to entry. Shifts Supply in market to right. Shows	Comprehensive understanding involves comparing and contrasting between the perfect competitor and monopolist by: • explaining in detail why monopolist *OR* PC maximise profits where MC = MR (discusses marginal profits before or after). Refers to *EITHER* graph to support explanation • explaining that for monopolist Q decision determines price, while PC is a price taker and price is set by the market • explaining why in the short run PC makes supernormal profits but in the long run only normal profits can be made. Refers to features of the PC • explaining why the monopolist can make	Comprehensive understanding involves comparing and contrasting between the perfect competitor and monopolist by: • explaining in detail why monopolist *OR* PC maximise profits where MC = MR (discusses marginal profits before or after). Refers to *EITHER* graph to support explanation • explaining that for monopolist Q decision determines price, while PC is a price taker and price is set by the market • explaining why in the short run PC makes supernormal profits but in the long run only normal profits can be made. Refers to features of the PC • explaining why the monopolist can make supernormal profits in the long run and short run.

		barriers to entry. Some parts may be incomplete.	barriers to entry.	new P and Q on Graph Four; area of supernormal profit identified in Graph Four ***OR*** explaining that others cannot enter the market if supernormal profits are made for monopolist due to strong barriers to entry so P and Q unchanged. Area of supernormal profits identified on Graph Six. Some parts may lack detail or are incomplete.	new P and Q on Graph Four; area of supernormal profit identified in Graph Four ***OR*** explaining that others cannot enter the market if supernormal profits are made for monopolist due to strong barriers to entry so P and Q unchanged. Area of supernormal profits identified on Graph Six.	supernormal profits in the long run and short run. Refers to features of the monopolist • integrating graphs into the explanations. Some parts may lack detail or are incomplete.	Refers to features of the monopolist • integrating graphs into the explanations.

N0 = No response; no relevant evidence.

Judgement Statement

	Not Achieved	Achievement	Achievement with Merit	Achievement with Excellence
Score range	0 – 7	8 – 13	14 – 18	19 – 24