

Assessment Schedule – 2017**Economics: Demonstrate understanding of the efficiency of market equilibrium (91399)****Assessment Criteria**

Achievement	Achievement with Merit	Achievement with Excellence
<p><i>Demonstrate understanding</i> involves:</p> <ul style="list-style-type: none"> providing an explanation of: <ul style="list-style-type: none"> market equilibrium and /or changes in market equilibrium efficiency in the market using an economic model(s) to illustrate concepts relating to the efficiency of market equilibrium. <p><i>Explanation</i> involves giving a reason for the answer.</p>	<p><i>Demonstrate in-depth understanding</i> involves:</p> <ul style="list-style-type: none"> providing a detailed explanation of: <ul style="list-style-type: none"> market equilibrium and /or changes in market equilibrium impact of changes in markets on efficiency in the market using an economic model(s) to illustrate complex concepts and /or support detailed explanations relating to the efficiency of market equilibrium. <p><i>Detailed explanation</i> involves giving an explanation with breadth (more than one reason for the answer) and / or depth (e.g. using flow-on effects to link the main cause to the main result).</p>	<p><i>Demonstrate comprehensive understanding</i> involves:</p> <ul style="list-style-type: none"> analysing the impact of a change in a market on efficiency by comparing and /or contrasting the different impacts on participants (i.e. consumer, producer, and, where appropriate, government) in that market integrating an economic model(s) into explanations relating to the efficiency of market equilibrium that compare and /or contrast the different impacts.

Cut Scores

Not Achieved	Achievement	Achievement with Merit	Achievement with Excellence
0 – 7	8 – 12	13 – 18	19 – 24

Evidence

Question	Sample Evidence	Achievement	Achievement with Merit	Achievement with Excellence
ONE				
(a) (i)	<i>(See Appendix.)</i>			
(ii)	A subsidy shifts the supply curve to the right, increasing the amount of fruit and vegetables supplied at each and every price. At the original price of P_e , there is now a surplus as $QS > QD$. Suppliers of fruit and vegetables will decrease price in order to clear unsold stock. As the price falls, suppliers of fruit and vegetables will reduce their quantity supplied because supplying fruit and vegetables is less profitable. Meanwhile, consumers will increase the quantity demanded of fruit and vegetables because at a lower price they are more affordable. QS will continue to fall while QD will continue to rise until $QS = QD$ and equilibrium is restored at a lower price of P_1 and a greater quantity of Q_1 .	<ul style="list-style-type: none"> Explains that the increase in supply will create a surplus of fruit and vegetables, which will result in a fall in the price of fruit and vegetables AND includes TWO of: <ul style="list-style-type: none"> surplus as $QS > QD$ at P_e QS falls QD increases equilibrium restored (at P_1, Q_1, where $QD = QS$). clears excess stock. 	<ul style="list-style-type: none"> Explains in detail that the increase in supply will create a surplus of fruit and vegetables, which will result in a fall in the price of fruit and vegetables AND includes FOUR of: <ul style="list-style-type: none"> surplus as $QS > QD$ at P_e QS falls QD increases equilibrium restored (at P_1, Q_1, where $QD = QS$) clears excess stock. <p>Refers to Graph One in the explanation and refers to fruit and vegetables context.</p>	
(b) (i)	<i>(See Appendix.)</i>	<ul style="list-style-type: none"> Shades or labels TWO of: <ul style="list-style-type: none"> increase in CS increase in PS DWL total cost of subsidy. 		

Question	Sample Evidence	Achievement	Achievement with Merit	Achievement with Excellence
Two (b) (ii)	<p>Consumer surplus increases by the shaded area because the price consumers pay decreases from P_e to P_1, increasing the difference between the price consumers are willing to pay and the price they actually pay and, therefore, increasing CS. Also, consumers increase their quantity demanded of fruit and vegetables from Q_e to Q_1, increasing the units they can gain surplus from and, therefore, increasing CS.</p> <p>Producer surplus increases by the shaded area because fruit and vegetables suppliers receive a higher price than before, increasing the difference between the price they are willing to accept for their produce and the price they actually receive and, therefore, increasing PS. Their quantity supplied of fruit and vegetables increases from Q_e to Q_1, increasing the units they can gain surplus from and, therefore, increasing their PS.</p> <p>Area ABCE represents the total cost of the subsidy to the government. This amount used to reduce the price of fruit and vegetables means that it cannot be spent in other areas. (OR it may be argued that it could be better spent raising awareness about healthy eating through education.)</p> <p>There is a loss of allocative efficiency because the combined gain in CS and PS is less than the loss of welfare in terms of the cost of the subsidy to the government, so there is a net welfare loss represented by the deadweight loss of the shaded area.</p>	<p>Explains:</p> <ul style="list-style-type: none"> CS increases as consumers pay lower prices OR consume a greater quantity PS increases as they receive higher prices OR now sells more Government is spending on the subsidy so has less to spend elsewhere There is a loss of allocative efficiency because there is a net welfare loss OR there is deadweight loss OR the sum of CS and PS is not maximised. 	<p>Explains in detail:</p> <ul style="list-style-type: none"> CS increases as consumers pay lower prices AND consume a greater quantity PS increases as they receive higher prices AND are now selling more Government is spending on the subsidy so has less to spend elsewhere, AND includes an example, e.g. programmes to educate people about healthy eating There is a loss of allocative efficiency as a result of subsidy because the combined gain in CS and PS is not enough to offset the cost to the government so EITHER there is a net welfare loss represented by the deadweight loss (shaded area) OR this means that the sum of CS and PS is not maximised. <p>Refers to Graph One in detail in the explanation and refers to fruit and vegetables context.</p>	<p>Explains in detail:</p> <ul style="list-style-type: none"> CS increases as consumers pay lower prices AND consume a greater quantity PS increases as they receive higher prices AND are now selling more Government is spending on the subsidy so has less to spend elsewhere, AND includes an example, e.g. programmes to educate people about healthy eating There is a loss of allocative efficiency as a result of subsidy because the combined gain in CS and PS is not enough to offset the cost to the government so there is a net welfare loss represented by the deadweight loss (shaded area) AND this means that the sum of CS and PS is not maximised. <p>Integrates relevant information from Graph One in the explanation and refers to fruit and vegetables context.</p>

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 AND refers to graph.	Most Merit evidence AND refers to graph.	Excellence evidence AND integrates relevant information from graph into the explanation. One part may be weaker	All points covered AND integrates relevant information from graph into the explanation.

Question	Sample Evidence		Achievement	Achievement with Merit	Achievement with Excellence							
TWO												
(a)	<table><tr><td></td><td>Inelastic Demand</td></tr><tr><td>Change in consumer surplus</td><td>2,3 (decrease)</td></tr><tr><td>New producer surplus</td><td>2,4</td></tr><tr><td>Deadweight loss</td><td>3,5</td></tr></table>		Inelastic Demand	Change in consumer surplus	2,3 (decrease)	New producer surplus	2,4	Deadweight loss	3,5	<ul style="list-style-type: none">• ONE area• ONE other area.	<ul style="list-style-type: none">• THREE areas.	
	Inelastic Demand											
Change in consumer surplus	2,3 (decrease)											
New producer surplus	2,4											
Deadweight loss	3,5											
(b) (i)	<p>Consumer surplus decreases because consumers pay a higher price of P_1 after the imposition of the quota compared to P_e before and because they consume less, i.e. Q_1 units instead of Q_e units before. This means that the difference between what consumers are willing to pay and what they actually pay decreases, and they consume fewer units from which to gain surplus, reducing their consumer surplus.</p> <p>As a result of the quota, although producers lose some surplus because of decreased sales ($Q_e - Q_1$), overall producer surplus increases because the gain in surplus from increased price outweighs the loss of surplus from decreased sales (i.e. 2 is a larger area than 5). PS increases from 4,5 to 2,4 because producers receive a higher price of P_1 compared to P_e before the quota, meaning the difference between the price producers are willing to accept and what they actually receive increases, increasing their producer surplus.</p> <p>Allocative efficiency decreases because the gain in PS is not enough to offset the loss in CS, resulting in a deadweight loss, represented by the areas 3,5.</p>		<p>Explains:</p> <ul style="list-style-type: none">• CS decreases because consumers pay a higher price OR consume less• PS increases because producers receive a higher price OR PS decreases as producers are selling fewer units• Allocative efficiency decreases as the loss in CS is greater than the gain in PS OR there is DWL OR the sum of CS + PS is not maximised	<p>Explains in detail, including correct figures:</p> <ul style="list-style-type: none">• CS decreases because consumers pay a higher price AND consume less• PS increases despite selling fewer units because the gain in surplus from increased price outweighs the loss of surplus from decreased sales• Allocative efficiency decreases as the loss in CS is greater than the gain in PS AND EITHER there is a DWL OR the sum of CS + PS is not maximised	<p>Explains in detail, including correct figures:</p> <ul style="list-style-type: none">• CS decreases because consumers pay a higher price AND consume less• PS increases because the gain in surplus from increased price outweighs the loss of surplus from decreased sales• Allocative efficiency decreases as the loss in CS is greater than the gain in PS AND there is a DWL AND the sum of CS + PS is not maximised							

Question	Sample Evidence	Achievement	Achievement with Merit	Achievement with Excellence
Two (b) (ii)	<p>If the good is inelastic, then the increase in price is greater ($P_1 - P_e$ is a larger increase than $P_2 - P_e$), meaning that the loss of consumer surplus is more for an <i>inelastic</i> good than for an elastic good, as shown by the area of 2,3 in Graph Two, which is larger than the area 9,10 in Graph Three. This is because an equal increase in price results in a proportionally larger decrease in quantity demanded for an elastic good than for an inelastic good; this also means that if there is to be an equal decrease in quantity demanded (as in the case of this quota, a decrease of $Q_1 - Q_e$), then the inelastic good will experience a proportionally higher increase in price than the elastic good (i.e. P_e increasing to P_1 is a greater increase than P_e increasing to P_2).</p> <p>Allocative efficiency decreases more when demand is inelastic than when demand is elastic, as shown by the area of 3,5, which is larger than the area 10,12. The greater loss in allocative efficiency when demand is inelastic is due to the larger loss in CS (3 rather than 10) resulting from the bigger increase in the price consumers pay when demand is inelastic than when it is elastic (as explained earlier).</p>	<ul style="list-style-type: none"> CS decreases more when demand is inelastic Allocative efficiency decreases more when demand is inelastic. 	<ul style="list-style-type: none"> ONE of: <ul style="list-style-type: none"> CS decreases more when demand is inelastic (equal decrease in QD but larger increase in price) Allocative efficiency decreases as the loss in CS is greater than the gain in PS AND it decreases more when demand is inelastic (due to greater loss of CS as explained in sample answers) Allocative efficiency decreases more when demand is inelastic as DWL will be greater. 	<ul style="list-style-type: none"> CS decreases more when demand is inelastic (equal decrease in QD but larger increase in price) <i>AND</i> Allocative efficiency decreases more when demand is inelastic (due to greater loss of CS as explained in sample answers).

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 AND refers to graphs.	Most Merit evidence AND refers to graphs.	Excellence evidence AND integrates relevant information from graphs into the explanation. One part may be weaker	All points covered AND integrates relevant information from graphs into the explanation.

N0 = No response; no relevant evidence.

Question	Sample Evidence	Achievement	Achievement with Merit	Achievement with Excellence										
THREE														
(a) (i)	(See Appendix.)	<ul style="list-style-type: none">BOTH of:<ul style="list-style-type: none">D curve shifted to the right and labelledIncreased price (rent) and increased quantity, labelled.												
(ii)	<p>As a result of increased demand for rental housing, the amount of rental housing demanded in Auckland increases at each and every price (rent), shifting the demand curve to the right from D to D₁.</p> <p>At the original rent of P_e, there will now be a shortage of rental housing, as $QD > QS$. Tenants desperate to rent will compete amongst themselves, bidding the rent up. As the rent increases, quantity supplied will increase, as landlords will increase the number of properties they offer for rent (or there will be an increase in the number investing in rental properties) because of the higher return (more profitable idea). Quantity demanded by tenants will decrease as rental housing becomes less affordable. QS will continue to rise while QD will continue to fall until $QD = QS$ and equilibrium is restored at the new higher rent of P₁ and new higher quantity of Q₁.</p>	<ul style="list-style-type: none">Explains that the increase in demand will create a shortage, which will result in price (rents) rising including TWO of:<ul style="list-style-type: none">shortage as $QS < QD$ at P_econsumers bid up the priceQS risesQD decreasesequilibrium restored (at P₁, Q₁, where QD = QS).	<ul style="list-style-type: none">Explains, in detail, with reference to Graph Four, that the increase in demand will create a shortage, which will result in price (rents) rising including FOUR of:<ul style="list-style-type: none">shortage as $QS < QD$ at P_econsumers bid up the priceQS risesQD decreasesequilibrium restored (at P₁, Q₁, where QD = QS).											
(b) (i)	<table><tr><td>Consumer surplus before</td><td>HEP_e</td></tr><tr><td>Consumer surplus after</td><td>HGAP_{max}</td></tr><tr><td>Producer surplus before</td><td>P_eEI</td></tr><tr><td>Producer surplus after</td><td>P_{max}AI</td></tr><tr><td>Deadweight loss</td><td>GEA</td></tr></table>	Consumer surplus before	HEP_e	Consumer surplus after	HGAP_{max}	Producer surplus before	P_eEI	Producer surplus after	P_{max}AI	Deadweight loss	GEA	<ul style="list-style-type: none">TWO labelsONE other label.		
Consumer surplus before	HEP_e													
Consumer surplus after	HGAP_{max}													
Producer surplus before	P_eEI													
Producer surplus after	P_{max}AI													
Deadweight loss	GEA													

Question	Sample Evidence	Achievement	Achievement with Merit	Achievement with Excellence
Three (b) (ii)	<p>The number of properties rented will decrease from Q_e to Q_1 as the number of properties offered for rental by landlords decreases because of the lower maximum rent. Overall, CS will increase because consumers/tenants will pay a lower rent of P_{max} instead of P_e, increasing the difference between what they are willing to pay and what they actually pay. This is despite some loss of CS due to fewer properties being rented. CS will increase from HEP_e to $HGAP_{max}$, overall a gain as the increase in CS due to the lower rent of P_{max} (P_eFAP_{max}) is greater than the loss in CS because of fewer properties rented (FEG).</p> <p>PS will decrease from P_eEI to $P_{max}AI$. This is because landlords will receive a lower rent of P_{max} instead of P_e, reducing the difference between what they are willing to rent their properties for and what they actually receive. Also, PS decreases further as the amount of rental housing landlords provide will decrease from Q_e to Q_1, lowering their rental income decreasing their surplus. PS will decrease by P_eEAP_{max}.</p> <p>Overall, the loss in PS of P_eEAP_{max} outweighs the gain in CS, resulting in a net welfare loss represented by the deadweight loss of GEA. This is because the sum of CS and PS is no longer maximised following the maximum rent control.</p>	<p>Explains:</p> <ul style="list-style-type: none"> quantity decreases from Q_e to Q_1 because of the maximum price CS will increase because of lower rent OR CS will decrease because of fewer properties being rented PS will decrease because of lower price/rent OR fewer properties rented there is a loss of allocative efficiency because there is a net welfare loss OR deadweight loss OR the sum of CS and PS is no longer maximised. 	<p>Explains in detail:</p> <ul style="list-style-type: none"> number of properties rented will decrease from Q_e to Q_1 but CS increases because the gain from reduced rent outweighs the loss from fewer rental properties PS will decrease because landlords will receive a lower rent of P_{max} instead of P_e AND fewer properties are rented. PS will decrease by P_eEAP_{max} overall, the loss in PS of P_eEAP_{max} outweighs the gain in CS, EITHER resulting in a net welfare loss represented by the deadweight loss of GEA, OR this is because the sum of CS and PS is no longer maximised following the maximum rent control. <p>Refers to Graph Five OR Table Two in the explanation.</p>	<p>Explains in detail:</p> <ul style="list-style-type: none"> number of properties rented will decrease from Q_e to Q_1 but CS increases as the gain from reduced rent outweighs the loss from fewer rental properties. PS will decrease because landlords will receive a lower rent of P_{max} instead of P_e AND fewer properties are rented. PS will decrease by P_eEAP_{max} Overall, the loss in PS of P_eEAP_{max} outweighs the gain in CS EITHER resulting in a net welfare loss represented by the deadweight loss of GEA, AND this is because the sum of CS and PS is no longer maximised following the maximum rent control. <p>Refers to Graph Five AND Table Two in the explanation.</p>

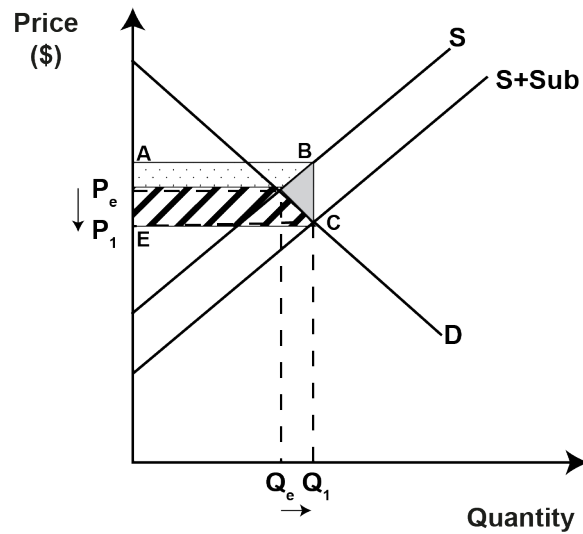
N1	N2	A3	A4	M5	M6	E7	E8
Very little Achievement evidence.	Some Achievement evidence, partial explanations.	Most Achievement evidence.	Nearly all Achievement evidence.	Some Merit evidence AND refers to Graph Four OR Graph Five.	Most Merit evidence: • (a) AND one of (b) AND refers to Graph Four AND Graph Five.	Excellence evidence AND integrates relevant information from Graph Five and Table Two into the explanation. One part may be weaker.	All points covered AND integrates relevant information from Graph Five and Table Two into the explanation.

N0 = No response; no relevant evidence.

Appendix: Graphs


Question One

Graph One: Market for fruit and vegetables – impact of a subsidy



Increase in CS = 

Increase in PS = 

DWL = 

Question Three

Graph Four: Auckland rental housing market – increasing demand

