

Assessment Schedule – 2019**Economics: Demonstrate understanding of the efficiency of market equilibrium (91399)****Assessment Criteria**

Achievement	Achievement with Merit	Achievement with Excellence
<p>Demonstrating understanding of the efficiency of market equilibrium involves:</p> <ul style="list-style-type: none"> • providing an explanation of market equilibrium and / or changes in market equilibrium, and of efficiency in the market • using an economic model(s) to illustrate concepts relating to the efficiency of market equilibrium. 	<p>Demonstrating in-depth understanding of the efficiency of market equilibrium involves:</p> <ul style="list-style-type: none"> • providing a detailed explanation of market equilibrium and / or changes in market equilibrium, and 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>Demonstrating comprehensive understanding of the efficiency of market equilibrium 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.

Evidence

Q1	Evidence	Achievement	Achievement with Merit	Achievement with Excellence
(a)	See Appendix.	THREE of: <ul style="list-style-type: none"> - Change in producer surplus (PS) correctly shaded - Change in Consumer surplus (CS) correctly shaded - Deadweight loss (DWL) correctly shaded - Cost of subsidy correctly labelled. 		
(b)	CS after maximum price = P_1bcP_{max} Change in PS = P_1bcP_{max} DWL = abc	TWO of: <ul style="list-style-type: none"> - CS after maximum price is correctly identified - Change in PS is correctly identified - DWL is correctly identified. 		
(c)	<p>Producer Surplus: A subsidy will increase producer surplus by the area [See Graph One in appendix] This is because the producers are receiving a higher price of P_3 and selling a higher quantity of Q_2. So, there are more units from which to gain a surplus and the difference between the price received and the price they are willing to receive has increased.</p> <p>A maximum price control will reduce producer surplus by the area P_1bcP_{max}. This is because producers are receiving a lower price of P_{max} and are selling a lower quantity of Q_3, so there are less units from which to gain a surplus and the difference between the price received and the price they're willing to receive has decreased.</p>	Explains that: <ul style="list-style-type: none"> • PS will increase for a subsidy due to a higher price received OR a higher quantity sold. • PS will decrease for a maximum price control due to a lower price received OR lower quantity sold. 	Explains that: <ul style="list-style-type: none"> • PS will increase for a subsidy due to a higher price received AND a higher quantity sold. • PS will decrease for a maximum price control due to a lower price received AND lower quantity sold. 	Explains that: <ul style="list-style-type: none"> • PS will increase for a subsidy due to a higher price received AND a higher quantity sold, so more units from which to gain a surplus OR the difference between the price received and the price producers are willing to receive increases. • PS will decrease for a maximum price control due to a lower price received AND lower quantity sold so less units from which to gain a surplus OR the difference between the price received and the price producers are willing to receive decreases.

<p>Allocative Efficiency (AE): A subsidy will result in a loss of allocative efficiency as the total cost of subsidy to the government, area ABCD from Graph One, is not fully offset by the gain in producer surplus plus the gain in consumer surplus, which results in a deadweight loss indicated by the area. [See Graph One in appendix], and PS plus CS is not maximised.</p> <p>A maximum price control will result in a loss of AE as the loss in producer surplus of area P_1bcP_{max} is not fully offset by the gain in consumer surplus, which is area $(P_1ecP_{max} - aeb)$, resulting in a deadweight loss of area abc. CS plus PS is not maximised.</p> <p>Beneficial policy: A subsidy will be more beneficial for consumers as both policies will increase consumer surplus, but the increase in CS for the maximum price due to the decrease in price received (P_1 to P_{max}) is partially offset by the decline in CS due to a lower quantity purchased (Q_3). This does not occur for the subsidy so the increase in consumer surplus is likely to be greater. Also, the maximum price creates a shortage of (Q_2-Q_3), so some consumers will miss out on purchasing the good, which doesn't occur with a subsidy.</p>	<ul style="list-style-type: none"> • A subsidy will lead to a loss of AE due to a DWL being created OR CS plus PS is not maximised. • A maximum price control will lead to a loss of AE due to a DWL being created OR CS plus PS not being maximised. • A subsidy is more beneficial to the consumer as no shortage is created OR the increase in CS is greater compared with a maximum price control. 	<ul style="list-style-type: none"> • A subsidy will lead to a loss of AE due to a DWL being created as the cost of subsidy is not fully offset by gain in CS plus PS, OR A maximum price control will lead to a loss of AE due to a DWL being created as the loss of PS is not fully offset by the gain in CS. • A subsidy is more beneficial to the consumer as no shortage is created AND the increase in CS is greater compared with a maximum price control. 	<ul style="list-style-type: none"> • A subsidy will lead to a loss of AE due to a DWL being created as the cost of subsidy is not fully offset by gain in CS plus PS, AND A maximum price control will lead to a loss of AE due to a DWL being created as the loss of PS is not fully offset by the gain in CS. • A subsidy is more beneficial to the consumer as no shortage is created AND the increase in CS is greater compared with a maximum price control with a valid reason given for why the increase in CS is greater.
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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.	Most Merit evidence.	Excellence evidence. One part may be weaker. AND Integrates relevant information from both graphs into answer.	All points covered. AND Integrates relevant information from both graphs into answer.

N0 = No response; no relevant evidence.

Q2	Evidence	Achievement	Achievement with Merit	Achievement with Excellence
(a)(i)	See Appendix.	<ul style="list-style-type: none"> Decrease in supply plus higher price and lower quantity labelled. 		
(ii)	<p>The decrease in supply will create a shortage of petrol at the original price of P_e. Consumers will be prepared to pay more because of the shortage so will bid the price up. As the price of petrol increases the quantity demanded will decrease and the quantity supplied will increase until the equilibrium is restored at a higher price of P_1, where $Q_s = Q_d$ at Q_1.</p>	<ul style="list-style-type: none"> THREE of: <ul style="list-style-type: none"> Shortage created at original price. Consumers bid up the price. Q_d decreases. Q_s increases. Equilibrium restored where $Q_s = Q_d$ or $S=D$. 	<ul style="list-style-type: none"> ALL of: <ul style="list-style-type: none"> Shortage created at original price. Consumers bid up the price Q_d decreases. Q_s increases. Equilibrium restored where $Q_s = Q_d$ or $S=D$. 	
(iii)	<p>The increase in the equilibrium price of petrol will be significant (P_e to P_1) compared with the reduction in quantity (Q_e to Q_1) as petrol has inelastic demand – which means a given increase in the price will result in a greater proportionate reduction in the quantity demanded. Because petrol is a necessity for many consumers with no substitutes, producers can pass on most or all of the increase in cost of providing petrol to the consumer. And consumers will only slightly reduce their consumption (or keep consuming the same amount) as petrol is a necessity.</p>	<ul style="list-style-type: none"> Explains that the increase in the petrol price will be significant as petrol has inelastic demand. 	<ul style="list-style-type: none"> Explains in detail that the increase in the petrol price will be significant as petrol has inelastic demand for many consumers as it is a necessity and has no substitutes. 	<ul style="list-style-type: none"> Explains in detail that the increase in the petrol price will be significant as petrol has inelastic demand for many consumers as it is a necessity and has no substitutes. So, producers can pass on most of the increased cost of providing petrol onto the consumers, who will keep buying the same amount, or slightly less, as petrol is a necessity.
(b)	<p>See Appendix.</p> <p>Removing petrol taxes will increase consumer surplus as consumers are paying a lower price (P_1) and consuming a higher quantity (Q_1). Therefore, there are more units from which to gain a surplus and the difference between the price paid and the price they are willing to pay increases.</p>	<ul style="list-style-type: none"> Increase in consumer surplus and producer surplus shaded and labelled. <p>Explains that:</p> <ul style="list-style-type: none"> Consumer surplus will increase due to the lower price paid OR due to the increased quantity purchased. 	<p>Explains in detail that:</p> <ul style="list-style-type: none"> Consumer surplus will increase due to the lower price paid AND due to the increased quantity purchased. 	<p>Explains in detail that:</p> <ul style="list-style-type: none"> Consumer surplus will increase due to the lower price paid AND due to the increased quantity purchased, so there are more units from which to gain a surplus OR the difference between the price

<p>Producer surplus will also increase as producers are receiving a higher price of P_1 (an increase from P_e minus the tax) and selling a higher quantity (Q_1). Therefore, there are more units sold from which to gain a surplus and the difference between the price received and the price they are willing to receive has increased.</p> <p>Allocative efficiency will be restored in the petrol market as the deadweight loss is removed, as the gain in producer surplus plus the gain in consumer surplus is greater than the loss of tax revenue for the government. Producer surplus plus consumer surplus is now maximised.</p>	<ul style="list-style-type: none"> • Producer surplus will increase due to the higher price received OR due to the greater quantity sold. • Allocative efficiency will be restored / achieved as the DWL is removed OR as CS plus PS is now maximised. 	<ul style="list-style-type: none"> • Producer surplus will increase due to the higher price received AND due to the greater quantity sold. • Allocative efficiency will be restored / achieved as the DWL is removed as the gain in CS plus the gain in PS is greater than the loss of tax revenue for the government. So, CS plus PS is now maximised. 	<p>paid and the price they're willing to pay has increased.</p> <ul style="list-style-type: none"> • Producer surplus will increase due to the higher price received AND due to the greater quantity sold so there are more units from which to gain a surplus OR the difference between the price received and the price they are willing to receive has increased. • Allocative efficiency will be restored / achieved as the DWL is removed, as the gain in CS plus the gain in PS is greater than the loss of tax revenue for the government. So, CS plus PS is now maximised.
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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.	Most Merit evidence.	Excellence evidence. One part may be weaker. AND Integrates relevant information from both graphs into answer.	All points covered. AND Integrates relevant information from both graphs into answer.

N0 = No response; no relevant evidence.

Q3	Evidence	Achievement	Achievement with Merit	Achievement with Excellence
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(a)	<p>Change in consumer surplus = \$468 750 decrease. Change in producer surplus = \$250 000. DWL = \$218 750.</p>	<ul style="list-style-type: none"> • Change in CS calculated correctly. • Change in PS calculated correctly. • DWL calculated correctly. 	<ul style="list-style-type: none"> • TWO of: <ul style="list-style-type: none"> - Change in CS correctly calculated. - Change in PS correctly calculated - DWL correctly calculated. 	<ul style="list-style-type: none"> • THREE of: <ul style="list-style-type: none"> - Change in CS correctly calculated. - Change in PS correctly calculated - DWL correctly calculated.
(b)	<p>Consumers of this species of fish will suffer from a loss of consumer surplus of \$468 750. This is because the price they have to pay for the fish has increased from \$22.5 per kilo to \$35 per kilo and the amount being purchased has decreased from 50 000 kg to 25 000 kg, which is their quantity demanded at the higher price. So, they are purchasing less units from which to gain a surplus and the difference between the price paid for the fish and the price they are willing to pay has decreased.</p> <p>Producers of this species of fish will benefit from a gain in producer surplus of \$250 000 as the loss of surplus from the decrease in the quantity of fish sold (50 000 kg to 25 000 kg) is outweighed by the gain in surplus from the increase in the price received (\$22.5 per kilo to \$35 per kilo). So, even though they are selling less units from which to gain a surplus the difference between the price received and the price they are willing to receive has increased.</p> <p>There will be a loss of allocative efficiency as the quota will create a deadweight loss of \$218 750. This is because the loss of consumer surplus (\$468 750) is not fully offset by the gain in producer surplus (\$250 000), the difference being the deadweight loss. So, consumer surplus plus producer surplus is no longer maximised.</p>	<p>Explains that:</p> <ul style="list-style-type: none"> • Consumer surplus decreases due to an increase in price paid for fish OR decrease in quantity purchased. • Producer surplus increases because of the increase in price received for fish. • There is a loss of allocative efficiency due to a deadweight loss being created OR because consumer surplus plus producer surplus is not maximised. 	<p>Explains in detail that:</p> <ul style="list-style-type: none"> • Consumer surplus decreases due to an increase in price paid for fish AND decrease in quantity purchased. • Producer surplus increases because of the increase in price received for fish, even though the quantity sold declines. • There is a loss of allocative efficiency due to a deadweight loss being created as the loss of consumer surplus is not fully offset by the gain in producer surplus. So, consumer surplus plus producer surplus is not maximised. 	<p>Explain in detail that:</p> <ul style="list-style-type: none"> • Consumer surplus decreases due to an increase in price paid for fish AND decrease in quantity purchased. So there less units from which to gain a surplus OR the difference between the price paid and the price consumers are willing to pay has decreased. • Producer surplus increases because of the increase in price received for fish, even though the quantity sold declines. So even though there are less units sold from which to gain a surplus, the difference between the price received and the price producers are willing to receive has increased. • There is a loss of allocative efficiency due to a deadweight loss being created as the loss of consumer surplus is not fully offset by the gain in producer surplus. So, consumer surplus plus producer surplus is not maximised.

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.	Most Merit evidence.	Excellence evidence. One part may be weaker. AND Integrates relevant information from Graph Five and Table One into answer.	All points covered. AND Integrates relevant information from Graph Five and Table One into answer.

N0 = No response; no relevant evidence.

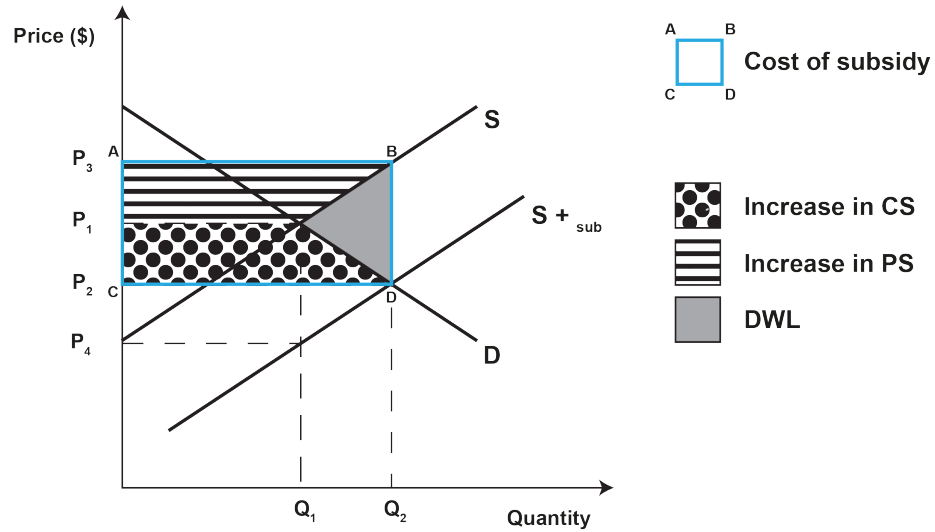
Cut Scores

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

Appendix

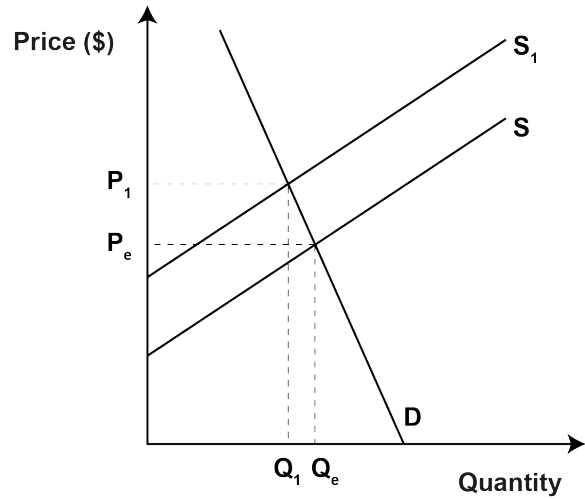
Question One (a)

Graph One: A market for a beneficial good with a subsidy



Question Two (a)(i)

Graph Three: The New Zealand market for petrol



Question Two (b)

Graph Four: The New Zealand market for petrol with and without taxes

