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91399



Draw a cross through the box (☒) if you have NOT written in this booklet

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Mana Tohu Mātauranga o Aotearoa
New Zealand Qualifications Authority

Level 3 Economics 2025

91399 Demonstrate understanding of the efficiency of market equilibrium

Credits: Four

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate understanding of the efficiency of market equilibrium.	Demonstrate in-depth understanding of the efficiency of market equilibrium.	Demonstrate comprehensive understanding of the efficiency of market equilibrium.

Check that the National Student Number (NSN) on your admission slip is the same as the number at the top of this page.

You should attempt ALL the questions in this booklet.

If you need more room for any answer, use the extra space provided at the back of this booklet.

Check that this booklet has pages 2–14 in the correct order and that none of these pages is blank.

Do not write in the margins (//////). This area will be cut off when the booklet is marked.

YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.

Achievement

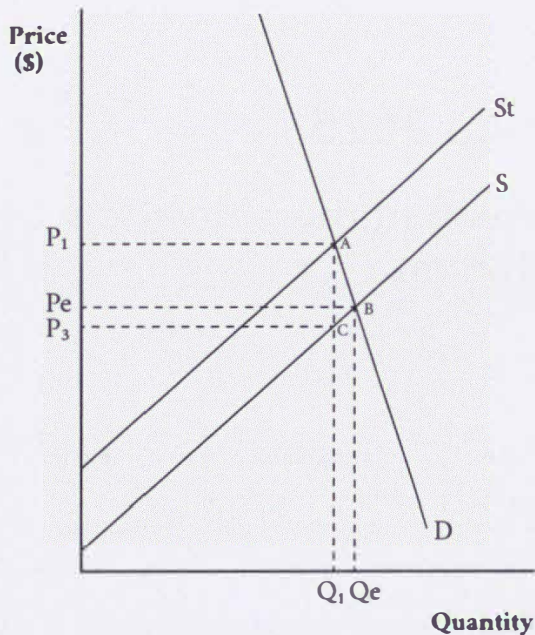
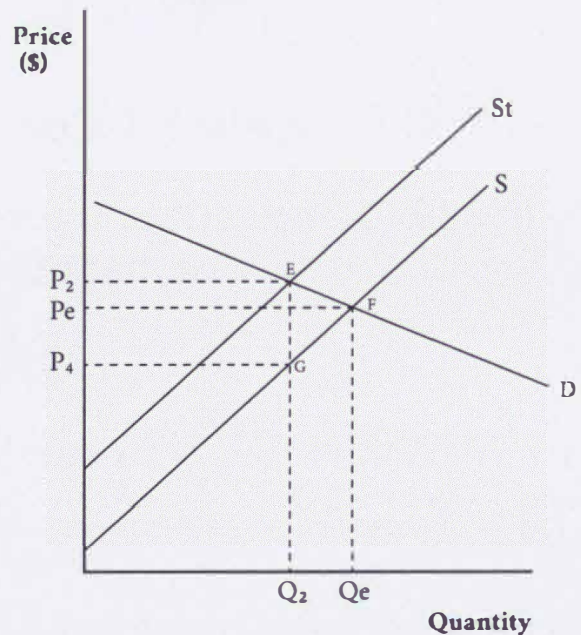
TOTAL 12

QUESTION ONE: Indirect tax and elasticity of demand

The purpose of an indirect tax, such as an excise duty, is to discourage the consumption of goods that may have negative health or social impacts, and to generate revenue for the Government.

Graph One shows the effect of an indirect tax placed on a good with inelastic demand.

Graph Two shows the effect of an indirect tax placed on a good with elastic demand.

Graph One: Inelastic demand**Graph Two: Elastic demand**

- (a) Complete Table One below by using the letters or labels in Graph One and Graph Two to identify the changes in surpluses, Government tax revenue, and deadweight loss.

Table One

	Graph One (inelastic)	Graph Two (elastic)
Decrease in consumer surplus	P_1, A, B, P_e	P_2, E, F, P_e
Decrease in producer surplus	P_e, B, C, P_3	P_e, F, G, P_4
Tax revenue	P_1, A, C, P_3	P_2, E, G, P_4
Deadweight loss	A, B, C	E, F, G

Refer to Graphs One and Two and Table One in your answer to part (b) below.

- (b) (i) Explain why the impact on consumer surplus is greater when demand is inelastic compared to when it is elastic. In your answer, include the definition of inelastic demand and a reason for demand being inelastic.

Inelastic demand is demand for a good or service that is not very sensitive to a change in price. This means that when price increases for the good in graph one, the quantity demanded decreases very little compared to elastic demand in graph 2. Demand is usually inelastic if the good is a necessity such as medicine or essential food items or if it is addictive and people who consume them view them as needs such as alcohol, cigarettes, gambling. The decrease in consumer surplus (CS) is much ~~smaller~~^{greater} in graph one ~~as the difference between what consumers were with~~ than graph 2 as producers can pass more of the tax on to consumers without losing as much producer surplus. Because the demand is inelastic, producers can charge a higher price and while the loss of consumer surplus is higher for inelastic demand, they lose a much lower amount of quantity ($Q_e - Q_1 > Q_e - Q_2$) at a higher price retaining more profits than elastic demand.

Question continues on the next page ►

(ii) Explain whether the Government would place the indirect tax on an elastic or inelastic good, if its objective was to:

- generate revenue
- discourage consumption.

To generate revenue, the government should place the tax on inelastic demand. This is because the tax ~~will~~ increases price ~~but~~ and retains a lot of quantity ~~with~~ with inelastic demand. creating a larger area than elastic demand.

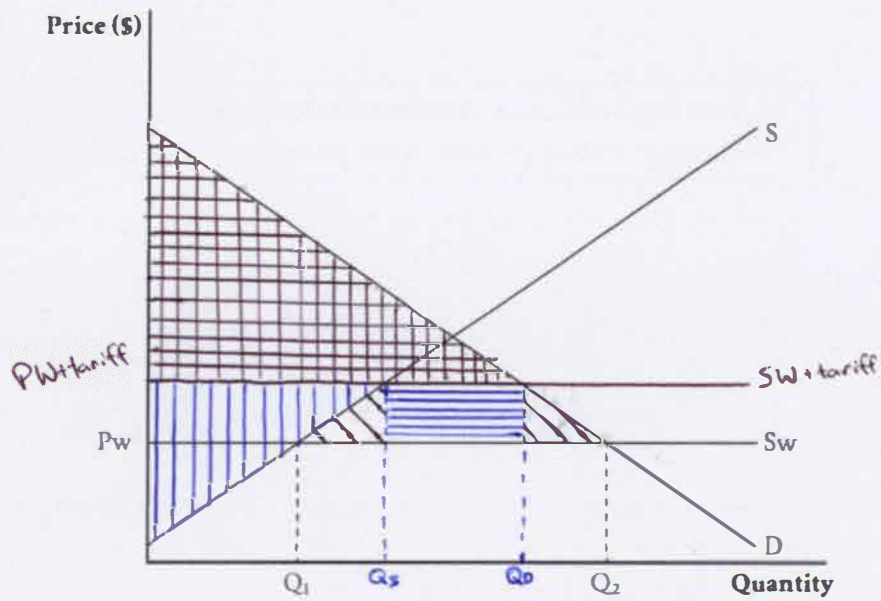
To discourage consumption the government should place the tax on elastic ~~goods~~ goods as they have a greater reaction to a change in price than inelastic demand goods so quantity demanded would decrease by more.





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QUESTION TWO: Tariffs

Although New Zealand generally aims for a free and open trade environment with relatively low tariffs, some goods, like textiles and clothing, continue to be subject to tariffs to protect domestic industries.

Graph Three: The New Zealand market for textiles and clothing



- (a) On Graph Three above, show the effect of imposing a tariff on the market for textiles and clothing by:
- indicating with dotted lines the new quantity demanded (label Q_d) and the quantity supplied (label Q_s)
 - shading the:
 - new consumer surplus 
 - new producer surplus 
 - tariff revenue 
 - deadweight loss 
 - labelling all changes.

Refer to Graph Three, the resource material, and the changes you made in (a) on page 6 in your answer to part (b) below.

(b) Explain the impact of the tariff on the market for textiles and clothing on the following:

Consumers

A tariff on the market for textiles and clothing causes a decrease in the consumer surplus. The price increases from P_W to $P_W + \text{tariff}$ when the tariff is imposed. This increase in price means that the difference between the price consumers were willing to pay and what they actually pay decreases. The increase in price also decreases consumers' demand ^($Q_2 - Q_1$) for clothing and textiles reducing the amount of units in which to gain surplus from. These overall lead to a decrease in consumer surplus.

Producers, including any difference in impact on New Zealand producers of textiles and clothing and importers of textiles and clothing

The increase in price of textiles and clothing from P_W to $P_W + \text{tariff}$ increases the producer surplus for New Zealand producers. This is because the difference between the price producers were willing to receive and what they actually receive has increased. This along with ^{the} increase in units to gain surplus from (Q_1 to Q_3) causes a gain in producer surplus (PS). The quantity supplied from importers decreases with the increase in price as they have to pay the additional tax (tariff) on products to New Zealand. This results in a decrease of imports from ~~$Q_2 - Q_1$~~ ($Q_2 - Q_1$ to $Q_4 - Q_3$). ~~and tariff~~



Question continues on the next page ►

The Government

The tariff causes an increase in government revenue as they receive a unit amount of $(P_w + \text{tariff} - P_w)$ on every unit of textiles and clothing imported into New Zealand.

The overall revenue earned for the government is $(P_w + \text{tariff} - P_w) \times (Q_D - Q_S)$.

Allocative efficiency

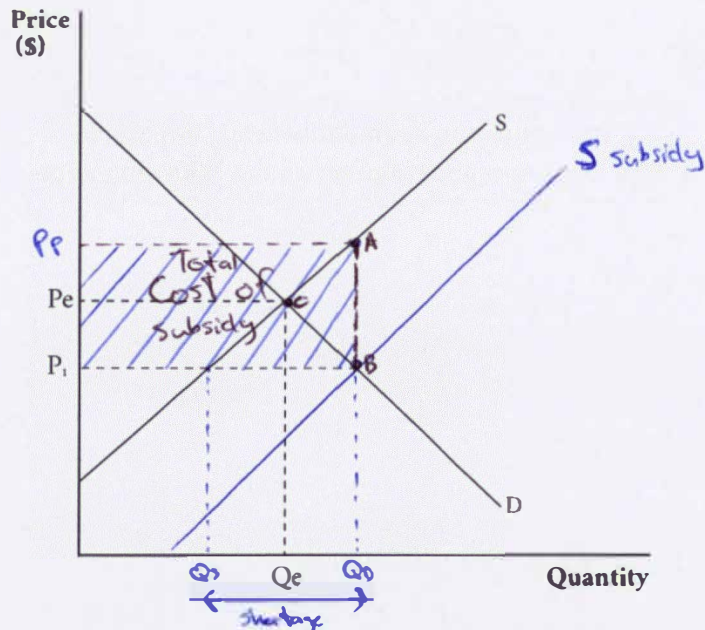
Allocative efficiency decreases with the tariff by the triangle areas  and . This is because the loss of consumer surplus was not outweighed by the gain in producer surplus and tariff revenue giving a loss of allocative efficiency represented by the deadweight loss.

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QUESTION THREE: Subsidy

A subsidy plays an important role in improving New Zealanders' access to affordable and effective medicines. Without a subsidy, the market for medicines is likely to face a shortage.

Graph Four: The market for medicines



- (a) (i) On Graph Four above, use dotted lines to show the resulting shortage of medicines that might occur at price P_1 . Label the shortage and the corresponding Q_d and Q_s .
- (ii) At the current price, P_1 , how would equilibrium be restored in the market for medicines? In your answer, refer to the relevant labels on Graph Four, the changes you made in part (a)(i) above, and the concept of market forces.

For the equilibrium to be restored in the market at P_1 , a subsidy is required. Currently ~~equilibrium~~ quantity demanded (Q_d) is greater than quantity supplied (Q_s) leading to a shortage. By implementing a subsidy the ~~government~~ ^{producers} can ~~decrease~~ increase supply to equal quantity demanded at P_1 without losing revenue.

Better health outcomes for New Zealanders now would mean less cost pressure on the health system in the long term. This is a good justification for the Government to continue funding the subsidy for medicines.

(iii) On Graph Four on page 10:

- add one new curve to show the effect of a subsidy that would remove the shortage from the market of medicines; label the curve
- shade and label the area that represents the total cost of subsidy to the Government
- show the price producers receive after the subsidy (label P_p)
- mark the area representing the deadweight loss with the letters A, B, and C.

Refer to Graph Four and the resource material in your answer to part (b) below.

(b) Explain the impact of a subsidy on the market for medicines on the following:

Consumers

A subsidy causes an increase in consumer surplus. This is because the amount of units to gain surplus from at the original price of P_i increases. Consumers can now ~~buy~~ buy medicine and not miss out without bidding up the price. (Quantity demanded increases from Q_s to Q_D).

Producers

The subsidy causes an increase in producer surplus. This is because the ^{price} for producers increases (P_i to P_p). This means that the difference between the price producers were willing to receive and what they actually receive increases. This along with the increase in units in which to gain surplus from (Q_s to Q_D) results in a greater producer surplus.

The Government, including how it justifies the continued funding of medicine subsidies despite funding pressures

The government pay the subsidy of the shaded area (P_p, A, B, P_i). Although the subsidy costs $P_p - P_i$ per unit, the increase in availability of medicine for consumers reduces the strain on New Zealand's healthcare system leading to a long term benefit (less cost pressure on the health system).

Allocative efficiency

Allocative efficiency ~~is lost~~ is lost. This is because the cost of the subsidy for the government (P_p, A, B, P_i) is ~~greater than~~ not offset by the gain in producer and consumer surplus leaving a deadweight loss of the triangle ABC.

**Extra space if required.
Write the question number(s) if applicable.**

QUESTION
NUMBER

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[Handwritten scribbles in blue ink, possibly representing a signature or initials.]

91399

Achievement

Subject: Economics

Standard: 91399

Total score: 12

Q	Grade score	Marker commentary
One	A4	The candidate completed the table accurately. They identified the features of an inelastic good, but with an inaccurate definition. The discussion of the increase in price or decrease in quantity demanded is limited. They correctly identified that generating revenue would be best on the inelastic good and discouraging consumption on the elastic good, but with no discussion of why or reference to the graph.
Two	A4	The candidate drew the graph correctly. They identified consumer surplus and producer surplus changes but with limited reference to price and / or quantity demanded (this being confused with demand) and changes to the graph. There was some discussion of the impact on importers as well as New Zealand producers. They identified that the government would receive additional revenue but not what it could do with it. They demonstrated understanding that there is a loss in allocative efficiency and that the deadweight loss was formed.
Three	A4	<p>The candidate drew the graph correctly. They demonstrated understanding of the basics of market forces, but little understanding of the mechanisms behind the change in quantity demanded and quantity supplied. The changes to consumer surplus and producer surplus were correctly stated but with limited reference to the graph.</p> <p>They demonstrated understanding of:</p> <ul style="list-style-type: none"> • the cost to the Government of the subsidy but not about the opportunity cost this will lead to, • allocative efficiency and the concept of offset.