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91399

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NZQA

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Level 3 Economics, 2017

91399 Demonstrate understanding of the efficiency of market equilibrium

2.00 p.m. Wednesday 29 November 2017
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 2–10 in the correct order and that none of these pages is blank.

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

Merit

TOTAL 16

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QUESTION ONE: IMPACT OF A SUBSIDY

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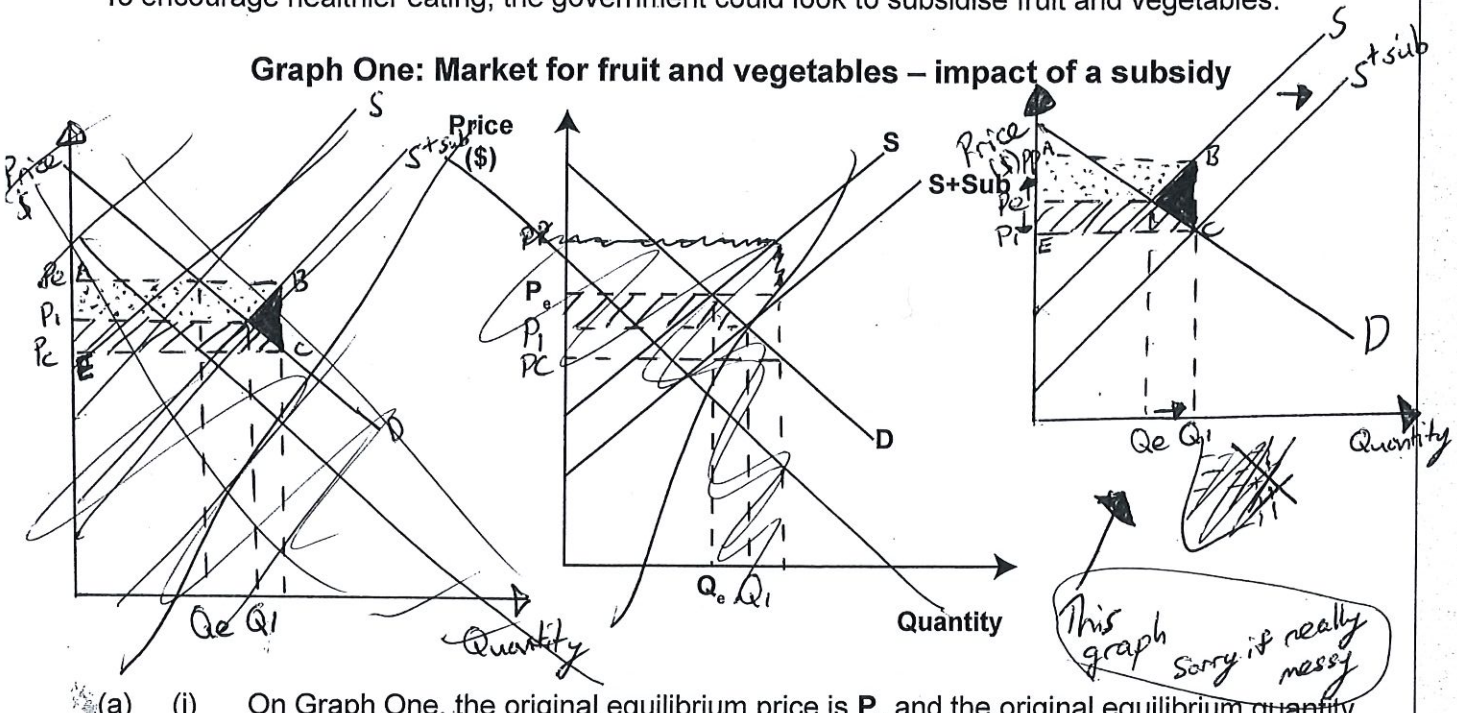
> An expert in population nutrition at Auckland University, Boyd Swinburn, says that poor diet is now a bigger cause of ill health than smoking in countries like New Zealand. Subsidising fruit and vegetables could improve the country's health.
>
> Source: http://www.radionz.co.nz/news/national/123254/food-taxes-and-subsidies-'could-improve-health'

To encourage healthier eating, the government could look to subsidise fruit and vegetables.

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



(a) (i) On Graph One, the original equilibrium price is P_e and the original equilibrium quantity is Q_e. Show the impact of a subsidy on the market for fruit and vegetables by clearly labelling the new equilibrium price P_1 and the new equilibrium quantity Q_1.

(ii) Explain in detail, using market forces, how equilibrium in the market for fruit and vegetables would be restored. In your answer, refer to Graph One.

Because of a subsidy on fruit and vegetables there is now a surplus as firms are supplying more than demanded at P1 after the subsidy. To clear excess stock firms lower their P which results in Quantity Supplied to decrease (Law of Supply). Consumers are now enticed by the lower price as it is more affordable causing Quantity demanded to increase (Law of demand). The price will continue to fall until demand and supply intersect and re-establish new equilibrium at (P1, Q1).

(b) (i) On Graph One, complete the following to show the impact of a subsidy on the fruit and vegetables market:

- Shade in the increase in consumer surplus
- Shade in the increase in producer surplus
- Shade in the deadweight loss
- Label the area of total cost to the government using the letters A, B, C, and E.

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(ii) Refer to Graph One to compare and contrast the impact of a subsidy on the New Zealand fruit and vegetables market. In your answer, include the impact on:

- consumer and producer surplus
- government
- allocative efficiency.

Because of the subsidy being implemented Consumer Surplus increases because consumers are gaining more marginal satisfaction per unit as price decreases from Pe - P1. Also there is an increase in demand from Qe - Q1 as it is more affordable for consumers. ✓

For Producer Surplus it is the same as the profit made per unit increases from Pe to PP as the Government pays for part of their Cost of Production. Also there is an increase in output by producers as it is more profitable for them. ✓

For the subsidy to be implemented the Government must pay a tax from (A, B, E, C) or (PP, B, C, P1). ✓

Because of this subsidy the market no longer becomes Allocative Efficient (AE) as there is a deadweight loss that occurs that isn't gained by Consumers or Producers. This DWL is now B, C, and old equilibrium point. ✓

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QUESTION TWO: IMPACT OF A QUOTA

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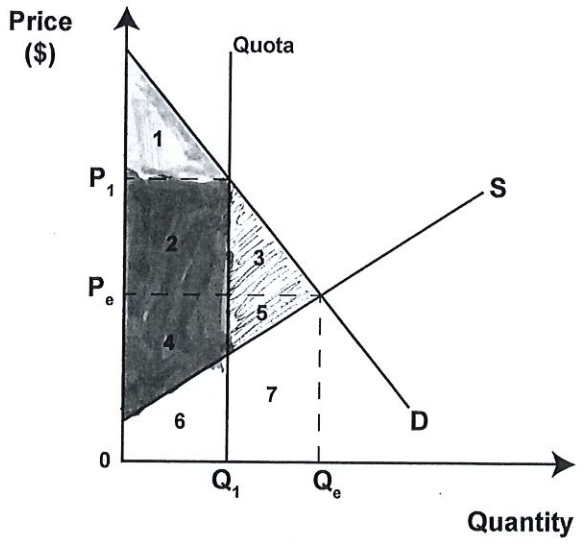
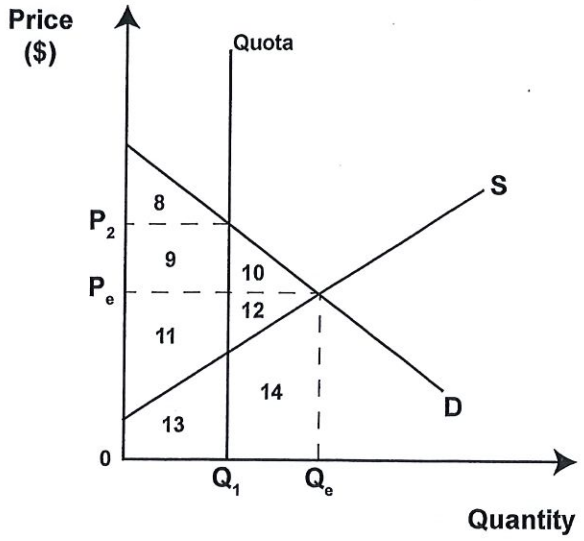
A quota on production limits the amount produced, forcing the price up.

A quota imposed on products with different elasticities can have varying impacts. Graphs Two and Three show a quota that halves the original production of an inelastic good and an elastic good, respectively.

Graph Two: A good with inelastic demand



Graph Three: A good with elastic demand



(a) Use Graph Two above to complete Table One, to show the impact of a quota. Use the numbers in the graph to represent the respective areas:

Table One

	Numbers from Graph Two – Inelastic Demand
Change in consumer surplus	Lose 3 and 2
New producer surplus	4 and 2
Deadweight loss	3 and 5

(b) (i) Refer to Graph Two and Table One to fully explain the impact of a quota on:

- consumer surplus
- producer surplus
- allocative efficiency.

Consumer Surplus decreases because the quota causes the ~~maximum~~ output to decrease from Qe to Q1. ~~Consumers cannot demand~~ Because of this there is a shortage causing consumers to bid up the price ~~to~~ from Pe to P1. However the amount ~~of~~ consumers are willing to pay/

minice the market price decreases greatly causing CS to decreare aswell./
Producers Surplus increases because they doe lose Point 5 on the graph due to Output decreasing from Qe to Q1 from the quota. However the profit made per unit increases from Pe to P1 due to the bid up from consumer since it is an inelastic good. There is a DWL that occurs at shapes 3 and 5 as it is no longer gained by any party due to the Quota making the market no longer AE.

(ii) Use Graphs Two and Three to compare and contrast the impact on consumer surplus and allocative efficiency when goods have different elasticities of demand.

For Elastic goods, Consumer surplus does not decrease as much as inelastic goods did because with elastic goods there are more substituter therefor consumer are not as willing to bid up the price like they would with inelastic goods. As shown on the graphs after the quota, the price of inelastic goods (P1) is much higher than elastic goods at (P2). This means that less marginal satisfaction is lost for consumers with elastic goods/
Because there is less CS lost with elastic goods then the DWL will be much smaller aswell because DWL is surplus gained by no other party. The less DWL the more allocative efficient the market is so Elastic goods will have a more AE market than inelastic goods.

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M6

QUESTION THREE: RISING RENTS

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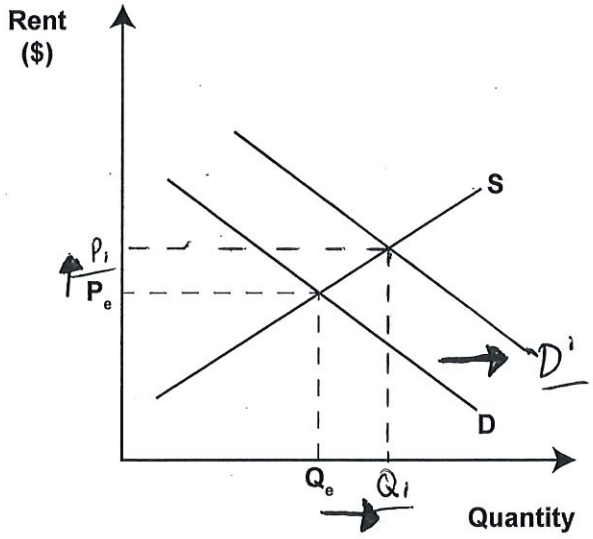
> Rents, particularly in Auckland, are set to increase, with landlords blaming housing shortages and an unprecedented interest in their properties.
>
> Source (adapted): http://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=11779030

The rising rents have largely been driven by increasing demand.

Graph Four: Auckland rental housing market – increasing demand



(a) (i) On Graph Four, show the impact on the market for rental housing in Auckland as a result of increasing demand. Clearly label the new equilibrium price $\mathbf{P_1}$ and the new equilibrium quantity $\mathbf{Q_1}$.

(ii) Explain in detail, using market forces, how equilibrium in the Auckland rental housing market would be restored. In your answer, refer to the changes you made to Graph Four.

Because of an increase in Demand for Auckland rents there is a shortage of rental homes as demand exceeds Supply. Consumers become competitive and bid up the price to try get one of these rental homes causing the demand to decrease as it becomes less affordable for consumers. Alternatively producers see the price being bidded up and increase their Supply as it is more profitable. This Price continues to increase until Demand is equal to Supply causing the equilibrium to be

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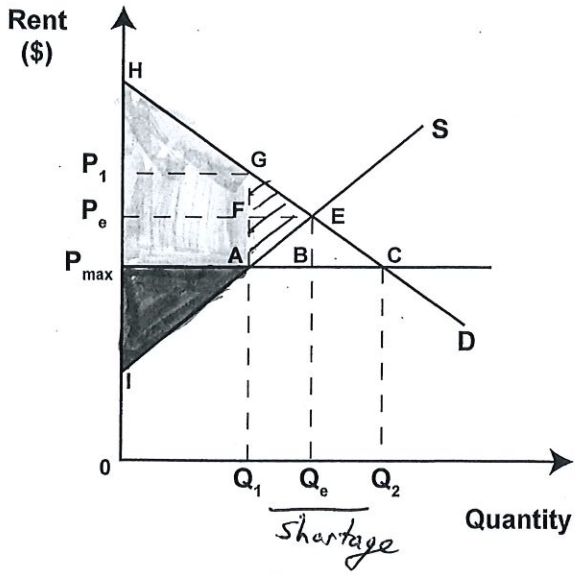
A possible intervention to keep rents from rising is a maximum rent control. Graph Five below shows a maximum rent (P_{max}) set below the equilibrium rent of P_e.

Graph Five: Auckland rental housing market – maximum rent control



(b) (i) Complete Table Two below by identifying the relevant labels from Graph Five showing the changes as a result of a maximum rent control.

Table Two

	Labels from Graph Five
Consumer surplus before maximum rent control	H, Pe, E —
Consumer surplus after maximum rent control	~~Pe, E~~ — H, Pmax, A, G
Producer surplus before maximum rent control	Pe, I, E —
Producer surplus after maximum rent control	Pmax, I, A —
Deadweight loss	G, A, E —

(ii) Referring to both Graph Five and Table Two, compare and contrast the impact on tenants, landlords, and allocative efficiency in the Auckland rental housing market as a result of a maximum rent control. In your answer, explain the change in:

- consumer and producer surplus for tenants and landlords
- allocative efficiency.

Because of the maximum price the Consumer Surplus will increase because the market price has fallen from Pe - ~~Pmax~~ Pmax. However there isn't a significant increase because Output has decreased from Qe - Q1 because firms are only supplying at Q1 and /

More answer space is available on the next page.

~~Consumers cannot~~ gain causing a Shortage as consumer are demanding at Q2. ~~CS changes from~~ This is ~~seen~~ seen as CS changes from H, Pe, E to H, Pmax, G, A./ Producer Surplus decreases because of the max price as ~~it~~ is producers ~~are making less~~ profit decreases from Pe to Pmax. Firms only earn Pmax because consumers cannot bid up the price like in Graph 4 because the maximum they can pay is well below the equilibrium price at Pmax. Because of this output decreases from Qe - Q1 causing ~~the~~ a ~~shift~~ decrease in PS from Pe, I, E to Pmax, I, A. This overall causes the market to not longer be allocative efficient because there is surplus that isn't gained by any party at G, A, E (DWL). This is because output ~~does~~ no longer goes to the equilibrium point Qe but now is at Q1.

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M5

Merit exemplar 2017

Subject:	Economics	Standard:	91399	Total score:	16

Q	Grade score	Annotation
1	M5	The candidate eventually shades and labels the graph correctly, importantly crossing out the first two attempts to make it clear which graph is submitted. Market forces are explained in detail by referring to the graph. The producer surplus is explained in detail by using both price and quantity, although profit and output are the terms used. Holistically, the understanding of the impact on producer surplus is evident for an M5.
2	M6	The areas on the graph are correctly labelled. Changes to price and quantity are both correctly explained for Merit evidence for consumer surplus. Also, the impact on consumer surplus and allocative efficiency from different elasticities of demand is explained in detail. An M6 is awarded overall, but this is closer to an M5 than an E7.
3	M5	Both graphs are labelled correctly. Market forces are explained, but not in detail this time as the candidate does not use quantity demanded and demand correctly. This is a lapse in concentration as the terms were correctly used in Question One. The tricky consumer surplus is explained in detail as one change outweighs the other, but the other impacts are only explained briefly. This is only barely an M5.