3

SUPERVISOR'S USE ONLY

91399

913990

NZQA

NEW ZEALAND QUALIFICATIONS AUTHORITY
MANA TOHU MĀTAURANGA O AOTEAROA

QUALIFY FOR THE FUTURE WORLD
KIA NOHO TAKATŪ KI TŌ ĀMUA AO!

Level 3 Economics, 2015

91399 Demonstrate understanding of the efficiency of market equilibrium

2.00 p.m. Wednesday 18 November 2015
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 2–11 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.

Achievement

TOTAL 8

ASSESSOR'S USE ONLY

Achieved = 08

QUESTION ONE: IMPACT OF A SUBSIDY

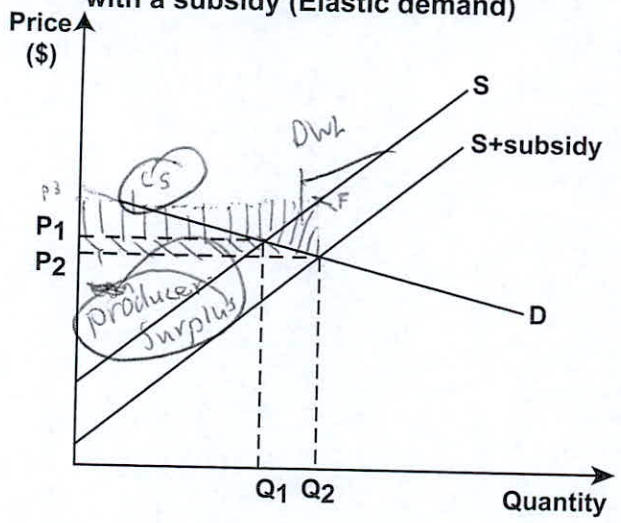
ASSESS USE O

"Increasing congestion on urban roads presents a serious threat to the economic growth and liveability of our city regions."

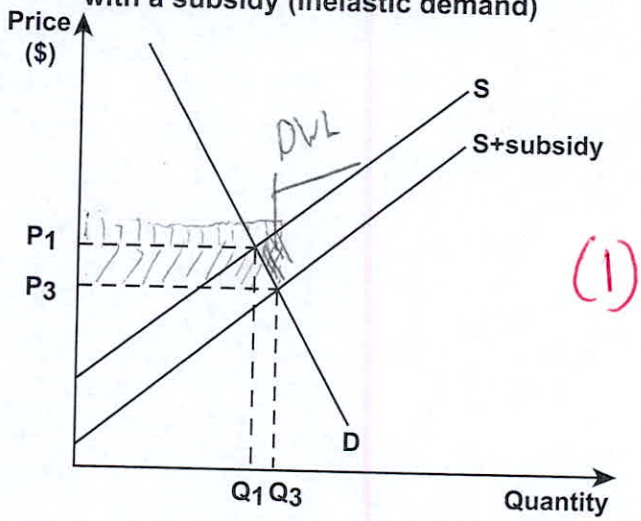
Source: http://www.transportworks.org/about-transport-works/reducing-congestion

One possible policy to reduce traffic congestion is to increase subsidies on public transport. The effectiveness of this policy is determined by the price elasticity of demand for public transport.

Graph One: Market for public transport with a subsidy (Elastic demand)



Graph Two: Market for public transport with a subsidy (Inelastic demand)



(1)

(a) (i) On Graph One, clearly shade and label the following:

- the change in consumer surplus as a result of the subsidy
- the change in producer surplus as a result of the subsidy.

(ii) Explain in detail the change in consumer surplus and the change in producer surplus. In your answer, refer to Graph One.

The change in consumer surplus is the area shaded on graph one from P3 to F to Q_1 to p1. The change in producer surplus is the area shaded on the graph from P_2 to Q_2 to Q_1 to P1. Consumer surplus has increased as consumers are more ~~able~~ willing and able to use public transport as the government has reduced the price for public transport. There has been an increase in ~~consumer~~ producer surplus as producers are more willing and able to produce public transport at that set price. //

(2)

(3)

(b) Compare and contrast the impact of subsidies on public transport when demand is elastic with when demand is inelastic.
In your answer:

- on BOTH graphs show the loss of allocative efficiency (deadweight loss) as a result of the subsidy
- explain in detail, for Graph One, why there is a loss of allocative efficiency
- explain in detail whether subsidies on public transport will be more effective in reducing traffic congestion if demand is elastic or inelastic
- refer to Graph One and Graph Two.

ASSESSOR'S USE ONLY

There is a loss of allocative efficiency or Deadweight loss as subsidy has not fully been offset for welfare for consumers. Not every one is fully utilising the ~~the~~ subsidy ~~as~~ which is why there has been a loss of allocative effiency in the form of a deadweight loss. Consumer and producer surplus have not been fully maximised (4)

If demand was elastic for public transport it would mean ~~that~~ a change in the given price for public transport will result in a more than proportionate change in the quantity demanded. If demand was inelastic ~~then it would mean~~ for public transport ~~it there would~~ ~~less~~ it would mean that a change in the given price for public transport will result in a less than proportionate change in ~~the~~ the quantity demanded ~~of~~ public transport. If demand was elastic for public transport it would rest in a higher quantity demanded as consumers can spend their income on public transport which can be referred to on graph one in the change of consumer surplus. If demand was inelastic ~~it would~~ for public transport it would result in lower demand for public transport as it will encourage them to use private transport rather than public transport as it is not scarce (5)

A4

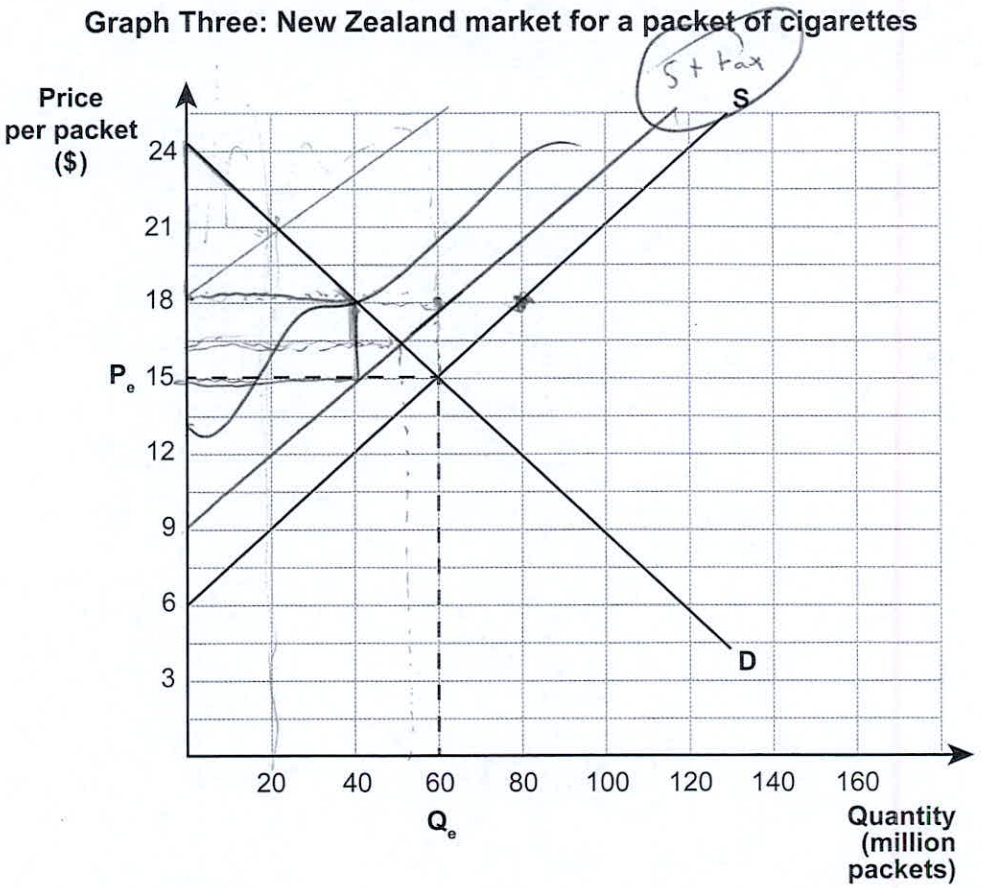
QUESTION TWO: GOVERNMENT INTERVENTION AND EFFICIENCY OF THE MARKET

ASSESSOR USE ONLY

Smokers thinking about making a new year resolution to quit smoking have been given some extra motivation with a tax increase that will significantly increase the average price of a pack of cigarettes.

Source (adapted): http://www.stuff.co.nz/national/politics/9569478/Cigarette-taxes-jump-10-per-cent

Graph Three: New Zealand market for a packet of cigarettes



(a) (i) On Graph Three, show an indirect tax which results in a price of $18 for a packet of cigarettes.

(ii) Complete Table One by calculating the relevant values from Graph Three.

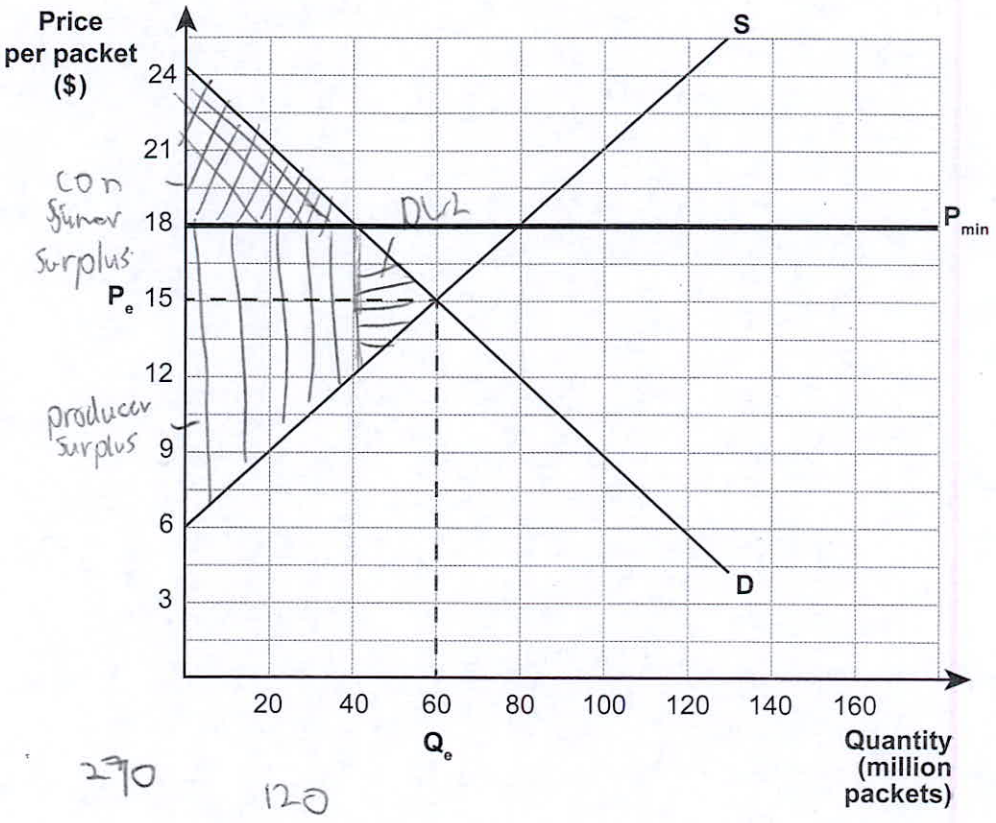
Table One

	Value from Graph Three ($)
Change in consumer surplus	~~120 million~~ ~~135,000~~ 150,000,000
Change in producer surplus	~~120 million~~ 135,000,000 ~~150,000,000~~
Tax revenue for the Government	~~120 million~~ 120,000,000

Another policy which would increase the price of cigarettes to $18 is imposing a minimum price of $18.

ASSESSOR'S USE ONLY

Graph Four: New Zealand market for a packet of cigarettes with a minimum price of $18



(b) Complete Table Two by calculating the relevant values from Graph Four.

Table Two

	Value from Graph Four ($)
Change in consumer surplus	- 150,000,000
Change in producer surplus	90,000,000
Change in consumer spending	

(c) Compare and contrast the two policies – an indirect tax and a minimum price.
In your answer:

- explain in detail the impact on consumer surplus of each of the two policies
- explain in detail the impact on producer surplus of each of the two policies
- explain in detail the impact on the Government of each of the two policies
- use relevant calculations from Table One and Table Two and refer to Graph Three and Graph Four.

With an indirect tax and and minimum price consumer surplus will decrease by 150,000,000 in both policies. The indirect tax for producers surplus

will decrease by 150,000,000 and the producer surplus for a minimum price will increase by 90,000,000. The government will gain revenue from the indirect tax of 120,000,000. This can be then used to help other parts of NZ which need ~~it~~ attending to. The impact of the ~~price~~ minimum price on the government will mean ~~for~~ them that no one can charge a higher price than the one they have set for $18.00. The consumer surplus has ~~stayed the same for both the indirect tax and~~ decreased by the same amount of $150,000,000 because essentially they will be paying the same price for cigerates no matter what. The reason why there is a significant difference in the change of producer surplus for the indirect tax (-150,000,000) and minimum price (90,000,000) is because the producers can charge a higher price ~~for~~ than the $18.00 set by the government and so are more ~~and~~ willing and able to produce the quantity demanded over a series of prices. //

(6)

N2

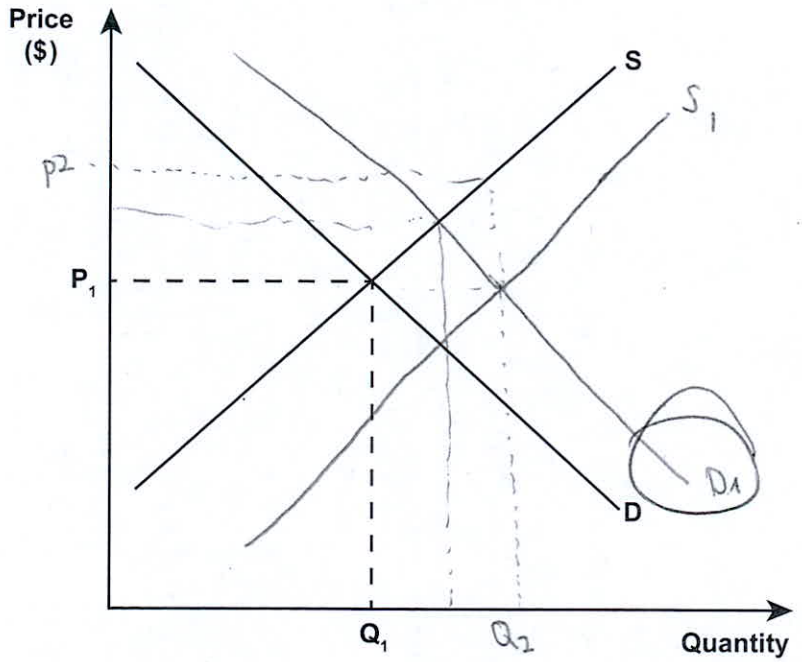
QUESTION THREE: GOVERNMENT INTERVENTION IN THE HOUSING MARKET

ASSESSOR'S USE ONLY

Tariffs on most building materials will be suspended in a move the Government says will bring the average cost of building a house down by about $3 500.

Source (adapted): http://www.stuff.co.nz/business/budget-2014/10048621/Building-material-import-tax-held

Graph Five: The New Zealand housing market



(a) (i) On Graph Five, show the impact on the New Zealand housing market if there is a reduction in the cost of building houses. Clearly label the new equilibrium price (P_2) and quantity (Q_2).

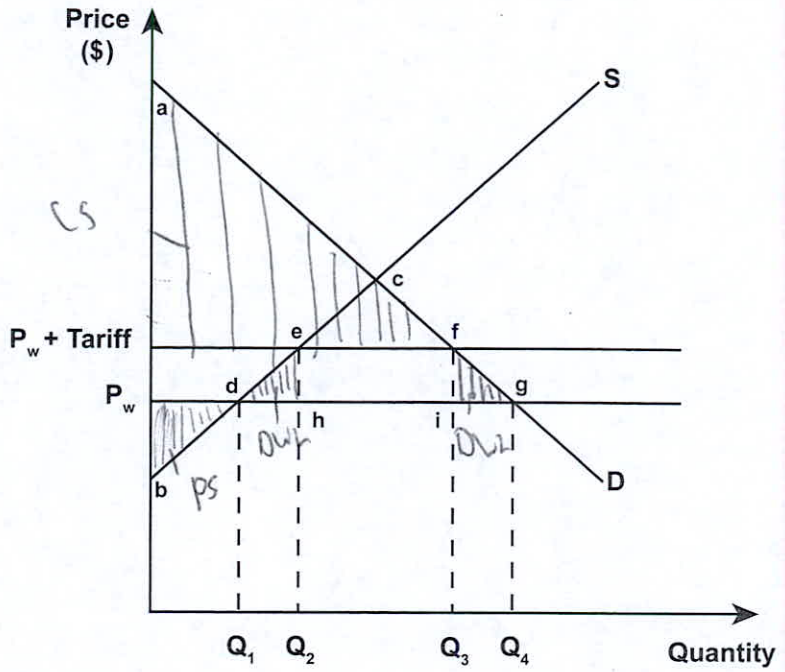
(ii) Explain in detail, using market forces, the change in the market equilibrium. In your answer, refer to Graph Five.

The resulting tarrif will reduce the production costs and will therefore result in an increase in the quantity supplied as it is cheaper for producers to produce a quantity at a certain price level. P^2_{Q2} The resulting tarrif with the reduction in the production costs and therefore the cost of housing which then lead to a higher quantity demanded for housing.

However, Finance Minister Bill English said the cuts to tariffs on building materials were only temporary and would need to be reintroduced due to the technicalities in the legislation.

Source (adapted): http://www.stuff.co.nz/business/budget-2014/10048621/Building-material-import-tax-held

Graph Six: New Zealand market for building materials with a tariff



(b) Complete Table Three below.

Table Three

	Labels from Graph Six
Change in consumer surplus	a c f a p+tariff
Change in producer surplus	p w d b
Tariff revenue for the Government	e f i h
Deadweight loss	f g i, d e n d

(c) Compare and contrast the impact of the tariff on consumers and producers of building materials, the Government, and allocative efficiency.
In your answer:

- explain in detail the impact on consumer surplus and producer surplus
- explain in detail the impact on the Government
- explain in detail the impact on allocative efficiency
- refer to Graph Six and Table Three.

The goverment will gain ~~revenue of area~~ tarrif revenue of EFIH. Tarrif is a tax on an imported good which

will result in the government being able to have more impact in the overseas ~~government~~ market. The consumer surplus has increased to a ~~put~~ tarriff as they are more willing and able to buy housing as it is cheaper for them. Producer surplus has decreased to PwdB because they will make less profit from housing as they have to pay the import tax of the tarriff on building materials. Producer surplus is the difference between the ~~revenue of supplying a quantity on the market~~ and what quantity they actually ~~supply~~ costs of putting a certain quantity on the market and the actuall revenue they received from putting that quantity on the market. Allocative efficiency occurs when consumer ~~producer~~ and producer surplus are fully maximised and there is no offset to any third party. The tarrif has created a deadweight loss of edh and fig which means there has been a loss of producer and consumer surplus and therefore a loss of allocative efficiency. (7)

ASSESSOR'S USE ONLY

N2

Achievement exemplar for 91399 2015		Total score	08
Q	**Grade score**	**Annotation**	
1	A4	This response is awarded A4 because the candidate: (1) correctly shaded (and labelled) DWL on both graphs (2) explained why CS increases (with the idea of consuming more and paying less) (3) explained why PS increases (with the idea of selling more) (4) explained there is a loss of allocative efficiency (sum of CS and PS not maximised and DWL is created) (5) explained subsidy will be more effective with elastic demand due to greater increase in QD To gain M5 or better requires more in-depth explanations which would have included more detail and correct referencing: Eg In (3), both the reasons for the PS increasing, ie the price producers receive increases AND their QS increases, with correct reference to the change in PS shading.	
2	N2	This response provides partial evidence with some correct calculations for the changes in CS and PS. It included references to these changes but no evidence of why those changes occurred apart from (6) (eg CS under Indirect Tax decreased by $150M because with indirect tax consumers pay a higher price, i.e. $18 instead of $15 previously etc.) This response provides no other relevant evidence to demonstrate understanding of the efficiency of market equilibrium.	
3	N2	This response provides some partial evidence with a correct identification of the tariff revenue label and explanation of loss of allocative efficiency (7). There was no other relevant evidence. A better answer would have included sufficient detailed explanations that referred to correct labels in Table Three and in-depth explanation of how equilibrium is restored using market forces and referring to Graph Five.	