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NZQA

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Level 1 Economics, 2016

90986 Demonstrate understanding of how consumer, producer and/or government choices affect society, using market equilibrium

9.30 a.m. Tuesday 15 November 2016
Credits: Five

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate understanding of how consumer, producer and/or government choices affect society, using market equilibrium.	Demonstrate in-depth understanding of how consumer, producer and/or government choices affect society, using market equilibrium.	Demonstrate comprehensive understanding of how consumer, producer and/or government choices affect society, using 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 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 2–8 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.

Excellence

TOTAL 22

**ASSESSOR'S USE ONLY**

QUESTION ONE: MARKET EQUILIBRIUM

The table and graph below illustrate the market for laptop computers in New Zealand, per month.

(a) Use the information below to:
- complete the market demand table
- complete the market demand graph
- on the graph, use dotted lines to indicate the market equilibrium price (label this P_e) and market equilibrium quantity (label this Q_e).

Market demand for laptop computers in New Zealand (monthly)

Price ($)	North Island	South Island	Market demand
500	3500	6000	9500
600	4500.	4500	9000
700	4100	3900.	8000
800	3800	3200.	7000
900	3000	3000	6000
1000	2100.	1900	4000
1100	1700	1300	3000.

Market for laptop computers in New Zealand (monthly)
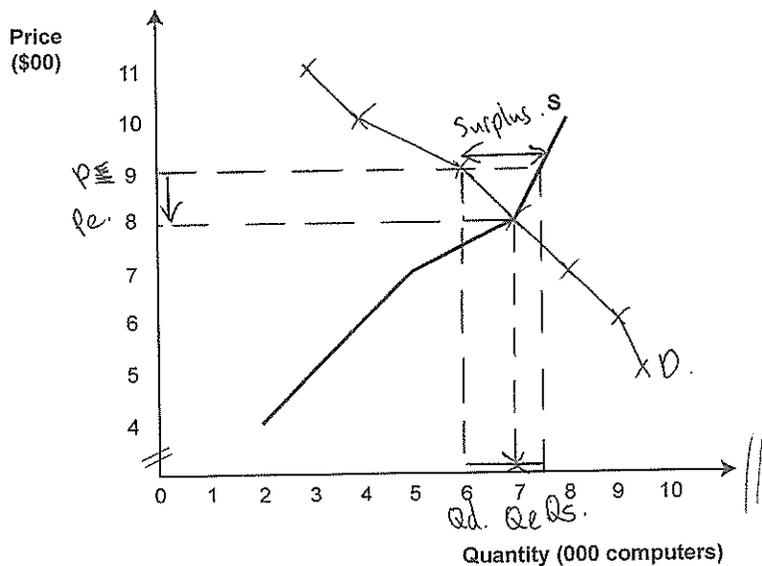
(b) On the graph above, show the market situation if the price of a laptop computer were $900.

In your answer:
- use dotted lines and labels to show the quantity demanded (Q_d) and the quantity supplied (Q_s)
- fully label the resulting shortage or surplus.

(c) Using the graph on page 2, fully explain how the market would respond to the situation at $900 in order to restore equilibrium.

In your answer, explain:
- the resulting shortage or surplus
- the change in market price
- the change in quantity demanded and quantity supplied

When the price of a laptop computer is $900, quantity demanded is 6,000 laptop computers per month and quantity supplied is 7,500 laptop computers per month, resulting in a surplus of 1,500 laptop computers per month as quantity supplied is larger than quantity demanded.

In order to get rid of excess stock, suppliers will lower the price of laptop computers. When the price of laptop computers decreases from P:$900 to Pe:$800, quantity supplied decreases from 7,500 to 7,000 laptop computers per month as it is now relatively less profitable for producers to supply laptop computers. (law of supply). When the price of laptop computers decreases from P:$900 to Pe:$800, quantity demanded increases from 6,000 to 7,000 laptop computers per month as it is now relatively more affordable to buy laptop computers on a fixed income. (law of demand). The price will continue to decrease until it reaches Pe:$800 where quantity demanded equals quantity supplied at 7,000 computers per month and equilibrium is restored.

P:$900

P:$900

E7

QUESTION TWO: CHANGE IN DEMAND

> In recent years, many New Zealand schools have encouraged students to bring their own laptops/tablets/smartphones, in a programme called Bring Your Own Device (BYOD).

The graph below shows the change in demand for laptop computers as a result of BYOD in New Zealand schools.

(a) On the graph below:
- label the new equilibrium price (P_{e1}) and the new equilibrium quantity (Q_{o1})
- label the resulting shortage/surplus at the original equilibrium.

New Zealand market for laptop computers (annually)
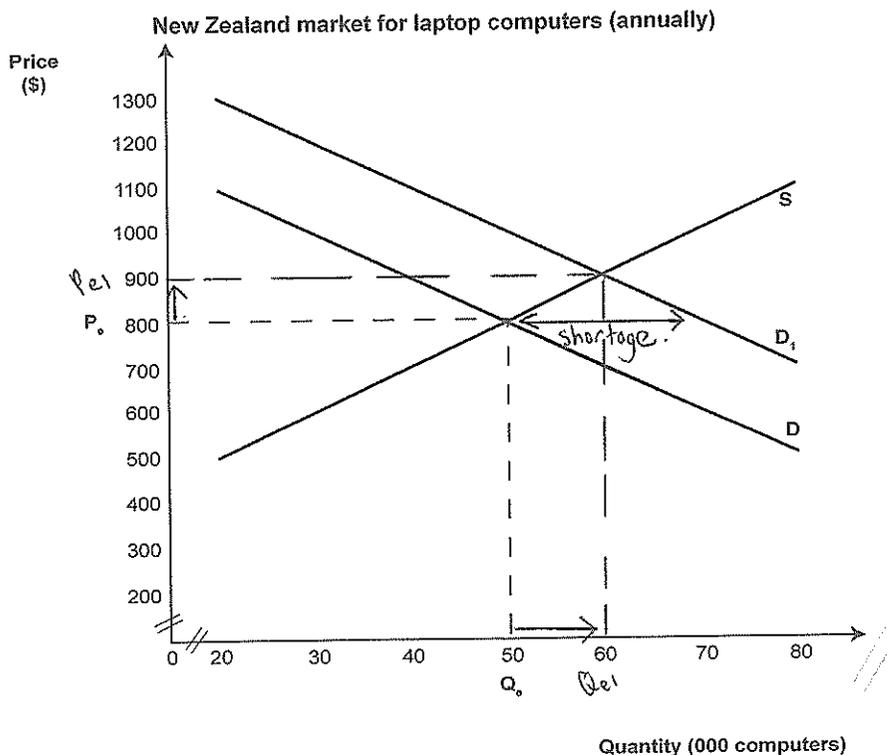
(b) Use the graph above to complete the table below.

	Before BYOD policy	After BYOD policy
Quantity consumers buy (annually)	50,000 . computers	60,000 . computers
Equilibrium price	$800 .	$900
Producer revenue (Show working)	$40,000,000 800 × 50000	$54,000,000 900 × 60,000

(c) Using the graph on page 4, fully explain the effect that the change in demand for laptops caused by BYOD would have on consumers and consumer spending.

Due to the BYOD policy, demand for laptops increases shown as a shift of the demand curve from D to D1 where at each and every price, more laptops are demanded. At the original price Pe, there will be a shortage as quantity demanded 70,000 computers is larger than quantity supplied 50,000 computers per year. In order to be able to get more computers, consumers will bid up the price until it reaches $900 where quantity demanded equals quantity supplied at 60,000 computers and equilibrium is restored. Because of this increase in both price and quantity consumer spending increases from $40,000,000 per year to $54,000,000 per year on laptop computers; an increase of $14,000,000 This means that consumers will now have less money to spend on other items and less money saved.

(d) Refer to your answers on page 4 to explain the change in revenue received by producers.

When price increases from $800 to $900 per computer, supply also increases from 50,000 to 60,000 computers per year as its now relatively more profitable for producers to supply laptop computers. Because of this increase in both price and quantity sold, producer revenue increases from $40,000,000 per year to $54,000,000 per year; an increase of $14,000,000

QUESTION THREE: TAX

New Zealand retailers feel disadvantaged when competing against overseas sellers of digital media, such as online books, movies, and music, as no tax is currently charged on these imported items. The New Zealand Government has proposed that a tax be charged on any digital media imported from overseas.

(a) On the sketch graph below, show the effect of charging a tax on imported digital media by shifting the appropriate curve. Label the new curve.

(b) Use dotted lines and labels to identify:
- the new equilibrium price (P_{o1}) and new equilibrium quantity (Q_{o1})
- the new price received by overseas sellers of digital media (P_p).

New Zealand market for imported digital media (annually)
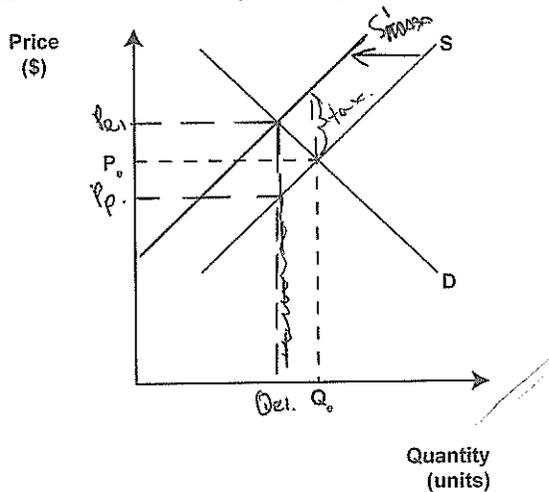
(c) Using the graph above, fully explain how charging a tax on imported digital media would affect New Zealand consumers and overseas sellers of digital media.

In your answer, refer to:
- the effect on equilibrium quantity
- the change in price paid by consumers
- the change in price received by overseas sellers.

When there is a tax on imported digital media then supply decreases shown as a shift of the supply curve from S to S1 where at each and every price less imported digital media is supplied. At the original price Pe there is now a shortage as quantity demanded is larger than quantity supplied.

Consumers will bid up the price until it reaches Pe1 where quantity supplied equals quantity demanded and = Qe1 equilibrium is restored.

The price paid by consumers increases from Pe to Pe1 as half of the tax is passed on to consumers.

The price received by overseas sellers decreases from Pe to Pp as half the tax is from the producers.

(d) Fully explain how charging a tax on imported digital media would affect New Zealand retailers of digital media.

Charging a tax on imported digital media affects New Zealand retailers of digital media as imported digital media and NZ digital media are substitute goods which can be used in place of one another. Due to the increase in price of imported media, demand for NZ digital media increases as it's now relatively more affordable to buy than imported media. At the new equilibrium price which is now higher NZ retailers of digital media's revenue will increase.

and quantity sold is larger.

Excellence exemplar 2016

Subject:	**Economics**		Standard:	**90986**	Total score:	**22**

Q	Grade score	Annotation
1	E7	Although it was not required for an E grade, this candidate has correctly completed the table, graph and labelled the surplus correctly. Data has been used to define a surplus by stating the size of 1500 laptops (also by saying that at \$900, QD = 6000 and QS is 7500). A surplus has been explained by stating that quantity supplied was larger than quantity demanded. The decrease in price is well explained by stating that the SUPPLIER will lower the price in order to get rid of EXCESS STOCK. This candidate then applies the law of supply using correct terms and referring to a decrease in profitability. The law of demand is then applied using correct terms and referring to more affordability. Restoration of equilibrium is then completed by stating P_e and Q_e.
2	E8	Candidate accurately identifies and labels new equilibrium and labels shortage correctly (although not required for E). All 6 calculations are correct. Comprehensively explains change in Demand, due to BYOD policy, shown by a shift to the right (and refers to graph) Links that because there is a shortage, the consumer will now bid up the price. Explains that consumer spending will now increase because both price and quantity have increased, using data from the calculations. Explains the increase in revenue due to an increase in both price and quantity and uses data from the calculations.
3	E7	Graph is correct. Supply curve is shifted left, labelled S_1. P_{e1}, Q_{e1} and P_P labelled correctly. The decrease in supply is explained to only M level, as does not link to increased cost of production or reduced profitability. Explains that the consumers now pay a higher price and that sellers now receive a lower price, as they both now involve paying a tax to the government. References to the graph have also been used in the explanation. Comprehensively explains that NZ digital media now becomes relatively more affordable. This is linked to the fact that this will bring more revenue for NZ retailers as consumers will switch from imported digital media (which is a substitute good).