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90986



NEW ZEALAND QUALIFICATIONS AUTHORITY
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Level 1 Economics, 2017

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

9.30 a.m. Friday 10 November 2017

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.

Merit

TOTAL

15

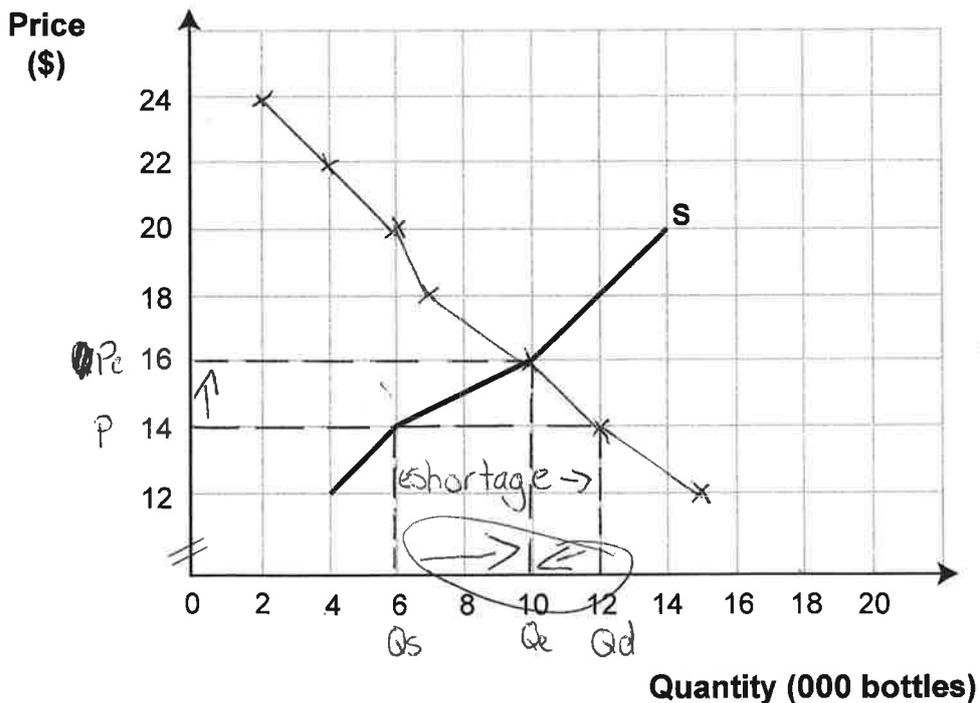
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QUESTION ONE: MARKET EQUILIBRIUM

The table and graph below indicate the market for Vitamin C tablets (large bottle) in New Zealand per month.

Market demand for Vitamin C tablets (large bottle) in New Zealand (monthly)

Price (\$)	South Island (000s)	North Island (000s)	Market demand (000s)
24.00	0.5	1.5	2
22.00	1	3	4
20.00	2	4	6
18.00	3	4	7
16.00	4.5	5.5	10
14.00	5.3	6.7	12
12.00	7	8	15

Market for Vitamin C tablets (large bottle) in New Zealand (monthly)

- (a) Use the information above to:
- complete the market demand schedule
 - draw the market demand curve
 - use dotted lines to indicate the market equilibrium price (P_e) and market equilibrium quantity (Q_e).
- (b) On the graph above, show the market situation if the price of a large bottle of Vitamin C tablets was \$14.00.

In your answer:

- use dotted lines to show the quantity demanded (label as Q_d)
- use dotted lines to show the quantity supplied (label as Q_s)
- fully label the resulting surplus or shortage.

- (c) Using the graph on page 2, fully explain how the market would respond to the situation at \$14.00 in order to restore equilibrium.

In your answer, explain:

- the resulting surplus or shortage
- the change required in market price
- the change in quantity demanded and quantity supplied.

At the price of \$14.00 (P) there is a shortage. This is because quantity demanded (Q_d) of 12000 bottles is greater than quantity supplied (Q_s) of 6000 bottles. This means there is a shortage of 6000 bottles Vitamin C bottles //

The market response to this is that consumers will bid up the price to get the Vitamin C that they are ~~off~~ after. This will happen once the price ~~is~~ increases to \$16 (P_e) then market equilibrium will be restored where quantity demanded and quantity supplied are equal. This means that when the consumers bid up the price, quantity demanded of 12000 bottles will decrease to 10000 bottles (Q_e) and quantity supplied will increase from 6000 (Q_s) to 10000 (Q_e). This means that the market equilibrium will be restored where quantity demanded ~~is~~ equal to quantity supplied of 10000 bottles (Q_e) at the price of \$16 (P_e) //

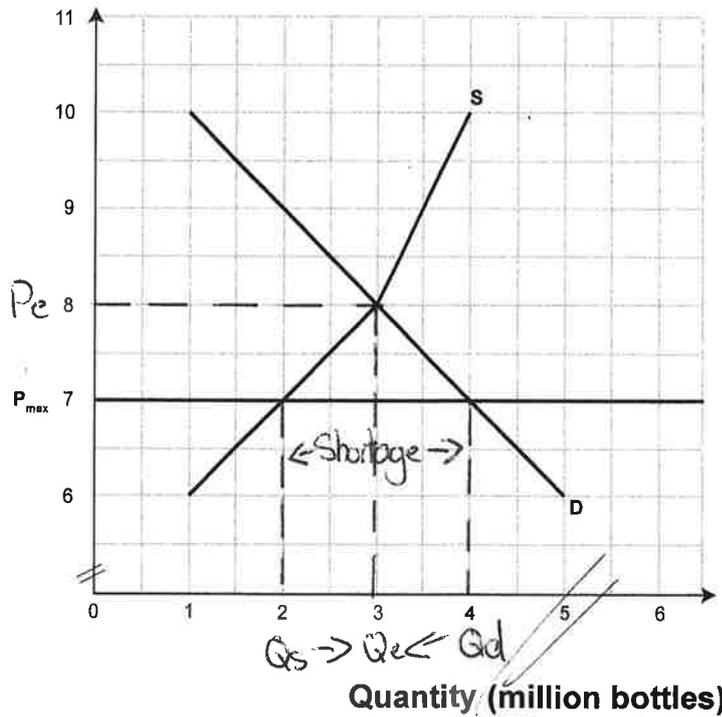
QUESTION TWO: MAXIMUM PRICE

Taking Vitamin C supplements has been linked to preventing the common cold. Evidence suggests that if people take Vitamin C, a cold does not last as long and it is not so bad.

Source (adapted): <http://sciencelearn.org.nz/Contexts/Food-Function-and-Structure/Looking-Closer/Vitamin-C>

The graph below shows the effect of a maximum price of \$7 per small bottle on the market for Vitamin C.

Price (\$)
New Zealand market for Vitamin C (small bottle) annually



(a) On the graph above, show the changes to quantity demanded and quantity supplied of Vitamin C (small bottles), as a result of a maximum price.

In your answer:

- use dotted lines to show the equilibrium price and equilibrium quantity before the maximum price (label as P_e and Q_e)
- use dotted lines to show the new quantity demanded by consumers after the maximum price (label as Q_d)
- use dotted lines to show the new quantity supplied by Vitamin C suppliers after the maximum price (label as Q_s)
- fully label the resulting surplus or shortage.

(b) Use the graph above to complete the table below.

	Before maximum price	After maximum price
Quantity demanded by consumers	3 million bottles	4 million bottles
Quantity supplied by producers	3 million bottles	2 million bottles
Price received by producers	\$ 8 8	\$ 7
Revenue received by producers	\$ 24 000 000	\$ 14 000 000

- (c) Use the graph on page 4 and your calculations to fully explain the effect on consumers of introducing a maximum price.

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In your answer, fully explain the change in:

- price paid by the consumer
- quantity demanded
- consumer spending.

The price paid by consumers has decreased ^{from \$8 (P_e) to \$7 (P_{max})} due to the maximum price that has been put on small bottles of Vitamin C. This means that the quantity demanded by consumers will increase because it now has become relatively more affordable for consumers. As shown on the graph quantity demanded before the maximum price was 3 million (Q_e) bottles but now the maximum price has been put in the quantity demanded has increased to 4 million (Q_d) bottles. This means that there is a shortage because quantity demanded of 4 million (Q_d) bottles is greater than the quantity supplied of 2 million (Q_s) bottles after the maximum price was put in place.

- (d) Fully explain TWO flow-on effects for society of introducing a maximum price.

A possible flow-on effect for society could be that less people are ~~getting~~ ^{getting} a cold so therefore ~~with~~ people will have to take less time off work or will be able to do their job to the best of their ability because they're not sick at work. Another possible flow-on effect ^{for society} could be that people are able to have more of a social life because they aren't feeling sick and don't have to stay inside all day instead of getting out and about with friends and family.

M5

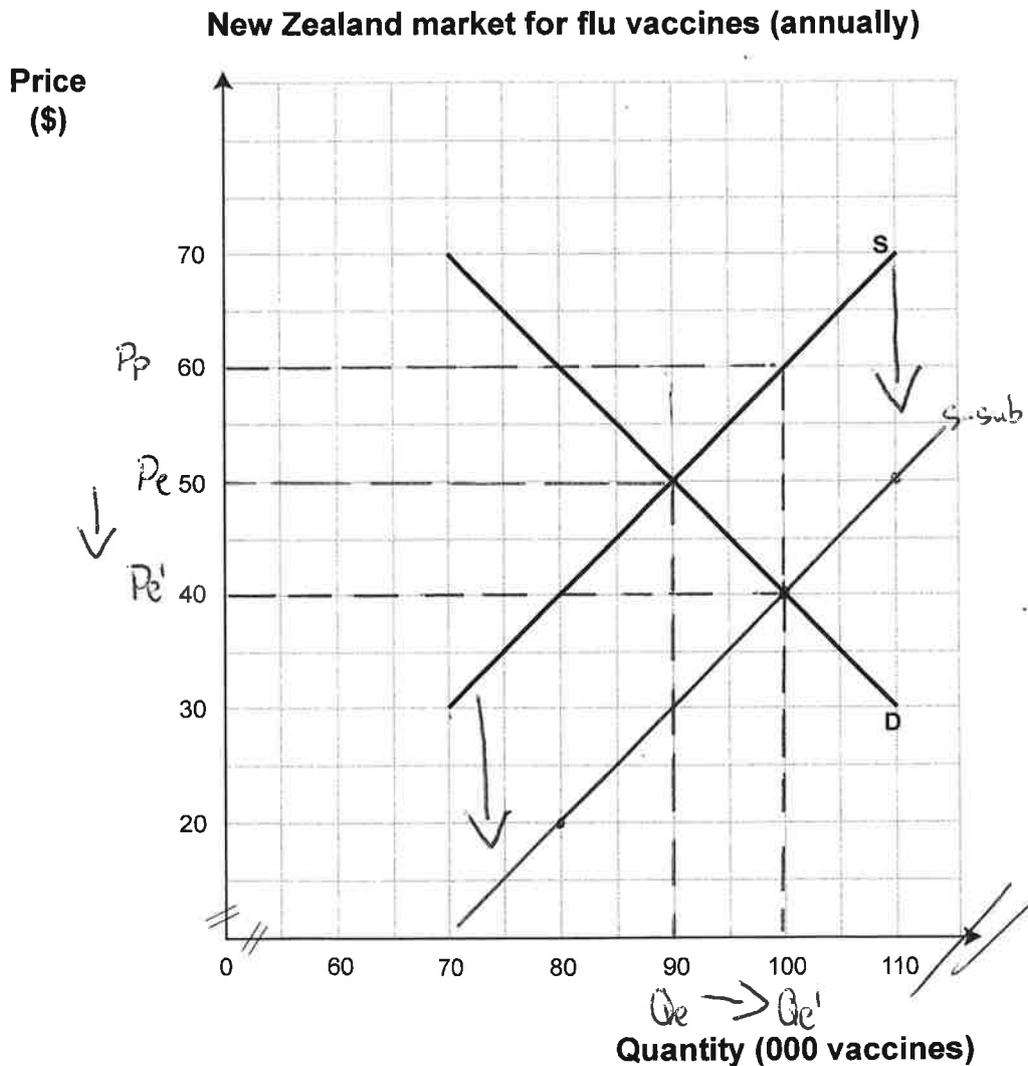
QUESTION THREE: SUBSIDY

One way that the government may prevent people from getting the flu is to subsidise the flu vaccine.

- (a) On the graph below, show the impact of a \$20 subsidy per vaccine on the market for flu vaccines.

In your answer:

- use dotted lines and label the original equilibrium price (P_e) and equilibrium quantity (Q_e)
- shift and relabel the appropriate curve
- use dotted lines to show the new equilibrium price ($P_{e'}$) and new equilibrium quantity ($Q_{e'}$).



- (b) Explain the immediate financial effect on the government from the subsidy on flu vaccines.

The immediate ^{financial} effect on the government will be that ~~there~~ they will have less money to put into other forms of health care so people in other forms of need will have to wait longer to get the required treatment.

(c) Fully explain ONE possible long-term benefit to society from the subsidy on flu vaccines.

A possible long-term benefit to society from the subsidy would be that less people would get the flu because it has become relatively more affordable for the consumers to purchase. So more people won't have to worry about getting the flu and live happier and healthier lives.

(d) Using the graph on page 6, and any additional calculations, discuss the impact of a subsidy on producers. In your answer, fully explain:

- the effect on equilibrium quantity
- the change in price received by producers
- the change in producer revenue.

The effect the \$20 subsidy will have on the equilibrium quantity is that the ~~the~~ quantity demanded and supplied will increase from ~~90,000~~^{90,000} (Q_e) to 100,000 (Q_e) as it becomes relatively more affordable and profitable for consumers and producers.

The change in price received by producers has increased from \$50 (P_e) to \$60 (P_p) making it relatively more profitable for the producers.

The change in producer revenue has increased from \$4500,000 to \$60,000,000 making ~~more~~ relatively more ~~profit~~ profitable which means quantity supplied will increase.

M5

Merit exemplar 2017

Subject:	Economics	Standard:	90986	Total score:	15
Q	Grade score	Annotation			
1	M5	<p>This candidate has correctly completed the table. The graph is plotted correctly, with P_e, Q_e, Q_d and Q_s correctly labelled. The labelling of the shortage is borderline, but passable. (Shortage is correctly identified in the text, so not required in the graph).</p> <p>A shortage is explained using data (size of 6000, but also QD of 12000 being greater than QS of 6000).</p> <p>The candidate identifies that consumers will bid up the price, but fails to say why (ie: in order not to miss out on stock / vitamin C).</p> <p>Candidate correctly applies law of demand and supply, but without referring to profitability or affordability.</p> <p>Candidate correctly identifies where equilibrium would return to (\$16 and 10 000 bottles).</p>			
2	M5	<p>This candidate correctly completes graph, labels shortage and calculates figures.</p> <p>In (c) price maximum has been identified and linked to the decrease in price from \$8 to \$7. No explanation given of what a price maximum is.</p> <p>The increase in quantity demanded has been linked to the decrease in price and the fact that vitamin C is now more affordable. Figures have also been included.</p> <p>This candidate then correctly describes the resulting shortage, but does not state that the quantity supplied decreased to 2 million bottles or more importantly, the decrease in consumer spending.</p> <p>This candidate has incorrectly described flow-on effects.</p>			
3	M5	<p>This candidate has correctly completed the graph, with appropriate labelling and shifting the supply curve to the right.</p> <p>The immediate financial effect should be related to the amount that the government has to pay to cover the subsidy – this candidate has instead spoken of where else money could be spent.</p> <p>The long-term benefit to society of living a healthier and happier life (due to getting immunised and therefore less likely to catch the flu) is correct.</p> <p>This candidate then explains the changes that have occurred (quantity increasing, price the producer receives, producer revenue), using figures, but does not state how (or why) these changes have occurred or link the changes.</p>			