

# ECONOMICS ECO3003Y1

## INTERNAL ASSESSMENT ACTIVITY

### ACHIEVEMENT STANDARD 91401 (VERSION 2) ECONOMICS 3.3

#### Demonstrate understanding of micro-economic concepts

Level 3, Internal assessment

5 credits

### STUDENT INSTRUCTIONS

#### Overview:

This assessment requires you to demonstrate understanding of micro-economic concepts. In particular, you will focus on marginal utility and demand, and elasticity of supply. You will be expected to:

- provide a detailed explanation of micro-economic concepts
- use economic models and data, and/or information to support your explanation
- justify implications of micro-economic concepts for a consumer(s), producer(s) and/or government.

#### Conditions:

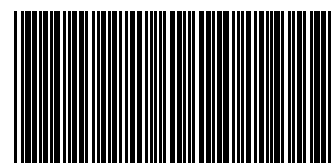
- This is an individual activity and the answers must be entirely your own work.
- It is 'open book' so you may refer to modules ECO3001, ECO3002, ECO3003, or any other resources, such as those on the internet, in the library or in the media.
- There is no time limit but it is expected that the tasks should take about 10 hours to complete.
- Plagiarism detection software may be used to check this is your own work.

#### You will need:

- access to the internet and/or other media such as newspapers and journals.

#### Supervisor requirements

- Supervision is not required for this assessment.
- Upload your assessment to the ECO3003Y1 assessment dropbox when you have completed it.



# ASSESSMENT CRITERIA

## ACHIEVEMENT STANDARD 91401 (VERSION 2) ECONOMICS 3.3

Demonstrate understanding of micro-economic concepts

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate understanding of micro-economic concepts.	Demonstrate in-depth understanding of micro-economic concepts.	Demonstrate comprehensive understanding of micro-economic concepts.

### EXPLANATORY NOTES

*Demonstrate understanding* involves:

- providing an explanation of micro-economic concepts
- using an economic model(s) to illustrate micro-economic concepts
- processing and/or presenting data or information related to micro-economic concepts.

*Demonstrate in-depth understanding* involves:

- providing a detailed explanation of micro-economic concepts
- using an economic model(s) to support detailed explanation
- using data or information to support detailed explanation.

• *Demonstrate comprehensive understanding* involves:

- using a detailed explanation, supported by models and data, and/or information to justify implications of micro-economic concepts for a consumer(s), producer(s) and/or government.

In this assessment, *micro-economic concepts* refer to: marginal utility and demand, and elasticity of demand.

# ASSESSMENT ACTIVITY

## ECONOMICS

### INSTRUCTIONS

- Read the questions carefully.
- Present all your answers on an electronic document or paper.
- Put your name and student ID on all documents.
- Use the **same** headings and numbering system as in this document.
- Make copies of all the tables and graphs and complete them.
- Ensure all graphs have been constructed carefully, using correct graphing conventions.

### TASK ONE: MARGINAL UTILITY AND DEMAND

The following schedule summarises the results of a recent survey of Hoani’s consumption of cans of ‘Power-Up’.



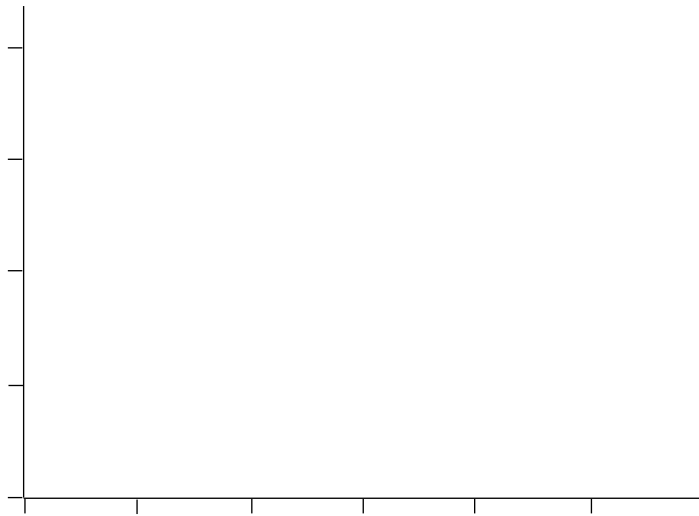
1. Copy and complete the following table by filling in the missing number for total and marginal utility. Utility is measured in cents.

Number of cans	Total utility (cents)	Marginal utility (cents)
1	300	
2		250
3	750	
4		150
5	1000	

2. Use the information in the above table to:
  - a. Copy and complete Hoani’s demand schedule for cans of ‘Power-Up’.
  - b. Plot a fully labelled demand curve for cans of ‘Power-Up’ by copying the axes on the next page.

Price \$	Quantity demanded (cans)
1.00	
1.50	
2.00	
2.50	
3.00	

## ASSESSMENT ACTIVITY



3.
  - a. Assume Hoani also loves drinking 'Zoom', another energy drink. In terms of 'Power-Up' and 'Zoom', explain how he could reach consumer equilibrium.
  - b. Write an equation that Hoani could use to show that he has achieved consumer equilibrium for 'Power-Up' and 'Zoom'.
  - c. What should Hoani do if the MU/P of 'Power-Up' is less than the MU/P of 'Zoom'? Explain your answer.
4. Provide a detailed explanation of why Hoani's demand curve for 'Power-Up' slopes downwards and to the right. In your answer you should refer to:
  - specific data to support your explanation
  - concepts of
    - total utility
    - marginal utility
    - the optimal purchase rule
    - diminishing marginal utility.
- 5.

### **SUGAR'S SWEET, BUT THE HEALTH EFFECTS OF SUGAR ARE NOT**

Drinking lots of sugar can lead to serious health effects. Did you know that ...

- drinking large amounts of sugary drinks can increase the risk of becoming obese and developing diabetes, heart disease and gout
- a child's risk of becoming obese increases by 60% with each additional sugar-sweetened drink consumed daily, along with the risk of dental issues like cavities and tooth decay.

Source: extract from <http://fatsmack.org>

There has been recent negative publicity on the levels of sugar in energy drinks.

Fully explain the impact this would have on:

- consumers' demand for energy drinks
- drink producers' decisions about supply and resource use.

Use sketch graphs to demonstrate your answers.

6.

**STUDY FINDS NATIONWIDE TAX ON SUGARY DRINKS WOULD REDUCE CASES OF DIET-RELATED DISEASES**

... an extra 12 cents per can or 20 cents per bottle – would reduce overall consumption of sugary drinks by 15 percent among adults between the ages of 25 and 64.

The report also estimates that, between now and 2020, the tax would prevent 95,000 cases of coronary heart disease, 8,000 strokes, and 26,000 premature deaths and result in approximately 867,000 fewer obese adults (a 1.5 percent decline), leading to a savings of more than \$17 billion in medical costs in the US.

Source: extract from <http://fatsmack.org>

**WORLD HEALTH ORGANIZATION DESCRIBES THE PREVALENCE OF OBESITY AS AN EPIDEMIC**

Overweight and obesity are major risk factors for a number of chronic diseases, including diabetes, cardiovascular diseases and cancer. Once considered a problem only in high income countries, overweight and obesity are now dramatically on the rise in low- and middle-income countries, particularly in urban settings.

Source: extract from [www.who.int/topics/obesity/en/](http://www.who.int/topics/obesity/en/)

**OBESITY AFFECTS ALMOST THREE IN TEN ADULTS IN NEW ZEALAND**

In 2011/12 almost three in ten adults (28%) were obese – about one million New Zealand adults. The obesity rate was similar for men (28%) and women (29%).

A further 35% of adults were overweight (but not obese) ... this means that two in three adults (64%) were either obese or overweight. One in three adults had a normal weight.

Source: [www.health.govt.nz](http://www.health.govt.nz)

## ASSESSMENT ACTIVITY

Explain in detail the impact that a tax on energy drinks would have on the government. In your answer you should include:

- advantages and disadvantages of imposing a tax
- reference to models that you may draw
- reference to data from extracts or other sources that you may research.

### TASK TWO

#### PART A: ELASTICITY OF DEMAND

Two retailers, Wiremu and Kate, operate businesses selling cell phone covers. Kate believes in giving extra service so she sells less produce but at a higher price. Wiremu aims for a higher turnover at lower prices. Their products are otherwise the same so each producer faces the same following demand.

MARKET DEMAND SCHEDULE FOR CELL PHONE COVERS	
Price \$	Quantity demanded
4	7000
6	6000
8	5000
10	4000
12	3000
14	2000
16	1000

1. State the formula used to calculate the price elasticity of demand.
2. Copy the following table. Over the price ranges stated:
  - calculate the price elasticity of demand (to two decimal places). Show your working.
  - state the type of elasticity (inelastic, unit elastic, elastic).

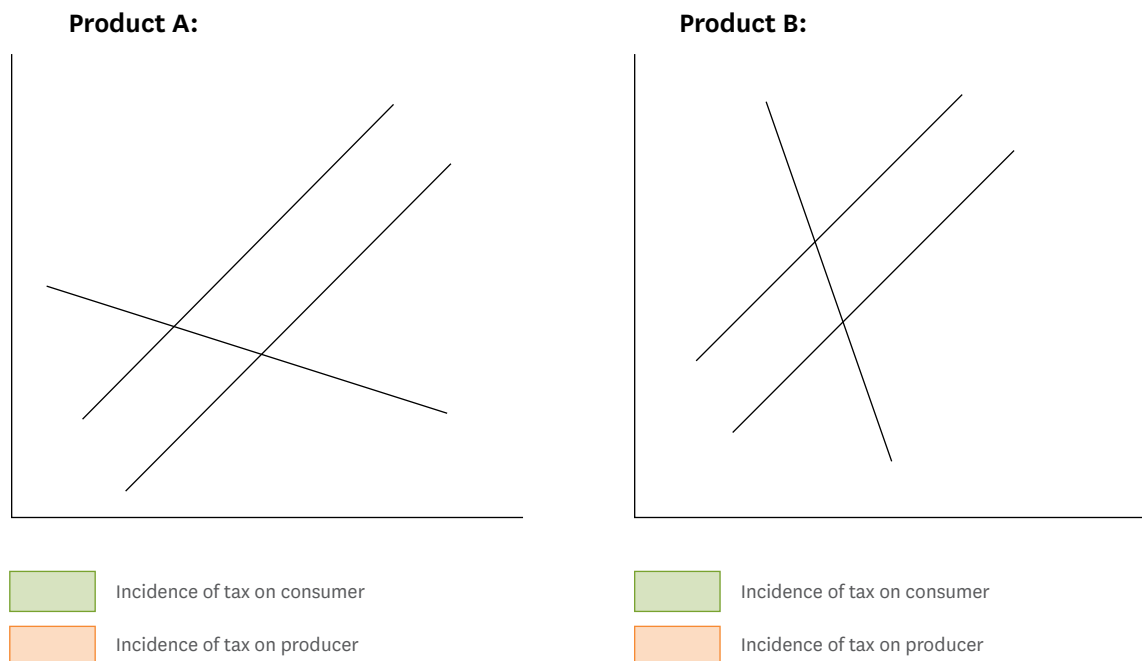
Price range per cover	Elasticity of demand coefficient	Type of elasticity
\$4-6		
\$6-8		
\$8-10		
\$10-12		
\$12-14		
\$14-16		

3. Assume Kate sells her cell phone covers at \$14 each and Wiremu sells his at \$6 each. Due to cost increases, each decides to raise their prices by \$2. Explain the impact that the differing elasticities would have on each of Wiremu and Kate's businesses. Make sure you refer to the type of elasticity that each of them faces.

## TASK TWO

### PART B: ELASTICITY OF DEMAND

The following two graphs illustrate the effect of a sales tax on the market.



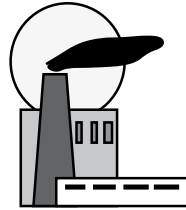
1. Copy the two graphs above. On each graph:
  - a. Label the heading, price (P), quantity (Q), equilibrium (E) and supply curve (S) **before** the sales tax was imposed
  - b. Label the heading, price (P1), quantity (Q1), equilibrium (E1) and supply curve (S1) **after** the sales tax was imposed.
  - c. Use correct shading and the key to identify the incidence of a tax:
    - on the consumer
    - on the producer.
  
2. Consider the factors that may have influenced the elasticity of demand for each of these products.
 

In your answer you should:

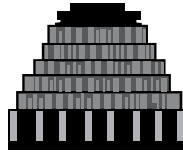
  - identify whether Products A and Product B have an elastic or inelastic demand
  - give possible explanations for the different elasticities of these products.

## ASSESSMENT ACTIVITY

Economic decision making of various groups is influenced by the price elasticity of demand.



**Producers**



**Government**



**Consumers**

3. Explain in detail how the elasticity of demand influences the impact of the tax on both the consumer and the producer. In your answer you should:
  - refer to Product A and B as examples
  - use the graphs to support your explanations.
4. Fully explain the impact on the government of taxing each of these goods. In your answer you should:
  - consider the possible aims of government for imposing a sales tax on each product
  - use the graphs to support your explanations.



**If you have written your answers on paper, scan them.**

**Upload your completed assessment to the ECO3003Y1 assessment dropbox.**



# ACKNOWLEDGEMENTS

Every effort has been made to acknowledge and contact copyright holders. Te Aho o Te Kura Pounamu apologises for any omissions and welcomes more accurate information.

Photo: Cola cans, 16119771, iStock International Inc., Canada. Used by permission.

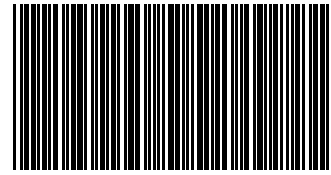
Extracts: Health Effects of Sugary Drinks; Study Finds Nationwide Tax On Sugary Drinks Would Reduce Cases Of Diet-related Diseases, © Boston Public Health Commission, USA, <http://fatsmack.org> . Extract only.

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**STUDENTS – PLACE STUDENT ADDRESS LABEL BELOW OR WRITE IN YOUR DETAILS.**

Full Name \_\_\_\_\_

ID No. \_\_\_\_\_

Address \_\_\_\_\_  
(If changed)