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NZQA

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Level 3 Economics, 2016

91400 Demonstrate understanding of the efficiency of different market structures using marginal analysis

2.00 p.m. Friday 25 November 2016
Credits: Four

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate understanding of the efficiency of different market structures using marginal analysis.	Demonstrate in-depth understanding of the efficiency of different market structures using marginal analysis.	Demonstrate comprehensive understanding of the efficiency of different market structures using marginal analysis.

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.

TOTAL

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QUESTION ONE: NATURAL MONOPOLY

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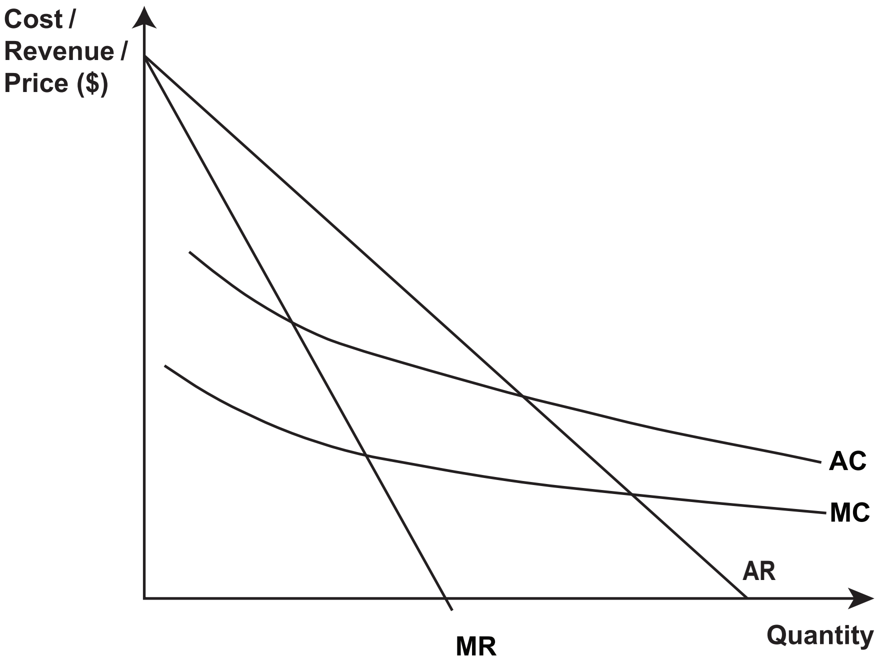
Since the mid 1990s, the New Zealand electricity industry has undergone significant reforms and deregulation. This has included splitting New Zealand's largest electricity generator into three competing generators, separating ownership of electricity lines and supply businesses, selling state-owned electricity generators, and introducing a system that enabled consumers to switch electricity retailers easily. These reforms were designed to make the electricity retail market much more competitive, giving consumers more choice and lower prices.

Source (adapted): http://www.mbie.govt.nz/info-services/sectors-industries/energy/electricity-market/electricity-industry/chronology-of-new-zealand-electricity-reform/chronology-of-nz-electricity-reform.pdf

Graph One: New Zealand retail electricity market



(a) (i) On Graph One, label the profit-maximising price (**P_1**) and the profit-maximising quantity (**Q_1**), assuming that the New Zealand retail electricity market was an example of a natural monopoly before the reforms.

(ii) Clearly shade and label the consumer surplus and deadweight loss that occurs at the profit-maximising equilibrium (**P_1** and **Q_1**).

(iii) Label the price (**P_2**) and quantity (**Q_2**) that would result if the reforms were successful in achieving an allocatively efficient outcome in the New Zealand retail electricity market.

(b) Refer to Graph One to compare and contrast the efficiency of the two equilibriums.

In your answer, fully explain :

- how electricity consumers would be affected by the electricity reforms if the reforms achieved an allocatively efficient outcome
- why $\mathbf{P_2}$ and $\mathbf{Q_2}$ would result in an allocatively efficient outcome in the New Zealand retail electricity market, in contrast to the profit-maximising equilibrium ($\mathbf{P_1}$ and $\mathbf{Q_1}$)
- what additional intervention could be needed by the Government at $\mathbf{P_2}$ and $\mathbf{Q_2}$ in the electricity market if costs for electricity retailers did not decline.

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QUESTION TWO: PERFECT COMPETITION

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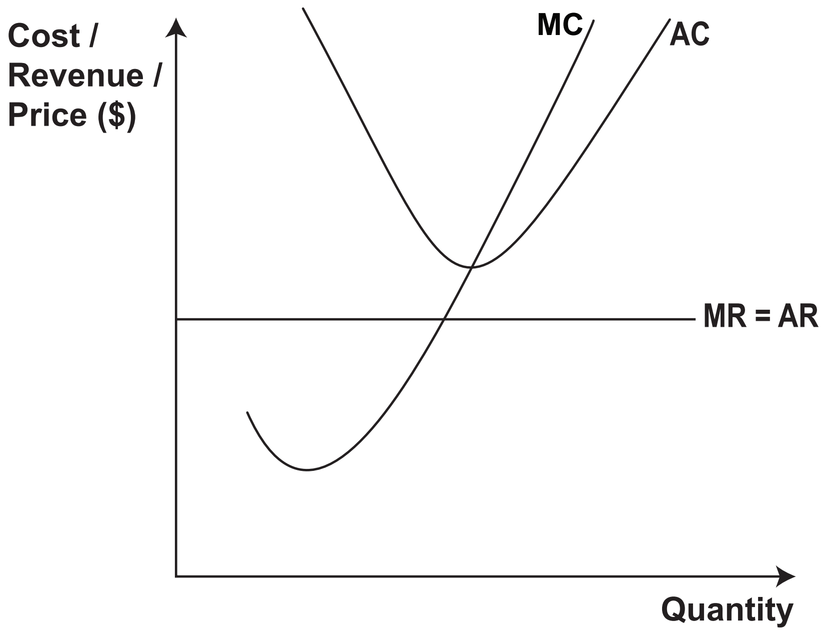
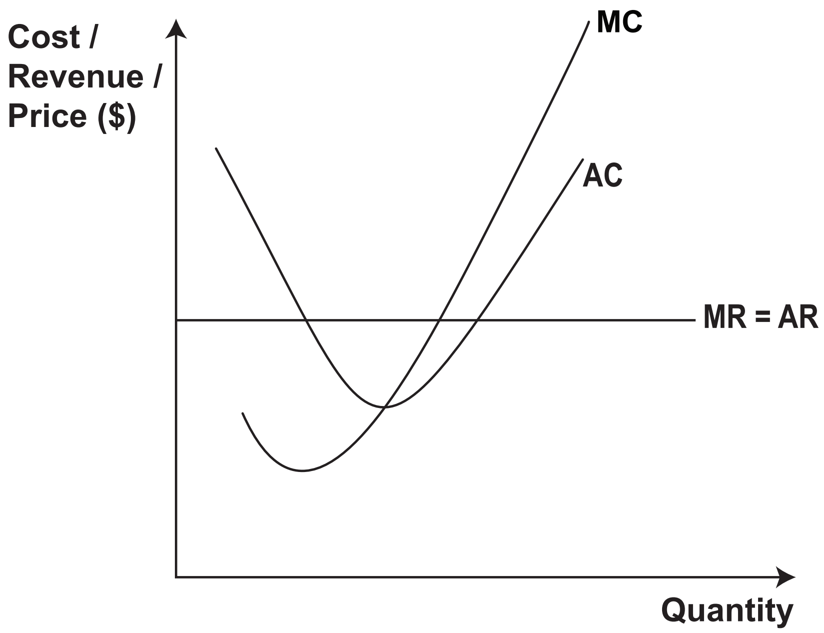
Graph Two: An individual perfectly competitive firm earning a subnormal profit in the short run



(a) (i) On Graph Two above, label the loss-minimising price (**P_1**) and the loss-minimising quantity (**Q_1**).

(ii) Clearly shade and label the subnormal profit earned by the firm in Graph Two.

Graph Three: An individual perfectly competitive firm earning a supernormal profit in the short run



(b) (i) On Graph Three above, label the profit-maximising price (**P_2**) and the profit-maximising quantity (**Q_2**).

(ii) Clearly shade and label the supernormal profit earned by the firm in Graph Three.

(c) Use marginal analysis to compare and contrast the long run situations of the firm earning subnormal profits with the firm earning supernormal profits, assuming that both firms stay in the industry.

In your answer:

- use Graphs Two and Three to show changes in the long run to profit, price, and output
- refer to the changes in your explanation.

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More answer space is available on the next page.

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The examination continues on the following page.

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QUESTION THREE: MONOPOLY

The average real income per person in New Zealand increased from $43 313 to $48 472 between 2010 and 2015. This indicates an increase in purchasing power for New Zealand consumers during this time period.

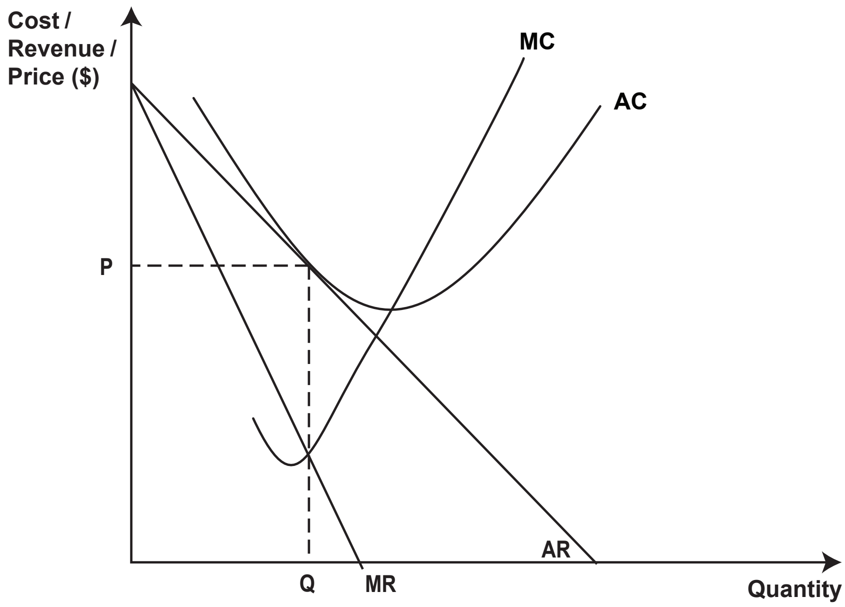
Source (adapted): http://www.stats.govt.nz/browse_for_stats/snapshots-of-nz/nz-social-indicators/Home/Standard%20of%20living/disp-income-pp.aspx

For the same time period, two-year fixed mortgage rates decreased from 7.2% to 5.3%.

Source (adapted): http://www.rbnz.govt.nz/statistics/key_graphs/mortgage_rates/

These two economic events could have resulted in an increase in market demand for some firms and a reduction in fixed costs for firms that had fixed mortgages on their premises.

Graph Four: A monopolist earning a normal profit



(a) Complete Graph Four above to show the impact of an increase in market demand on a monopolist earning a normal profit. Clearly label the changes (if any) to the profit-maximising price and the profit-maximising quantity.

(b) Complete Graph Five on page 9 to show the impact of a reduction in fixed costs on a monopolist earning a normal profit. Clearly label the changes (if any) to the profit-maximising price and the profit-maximising quantity.

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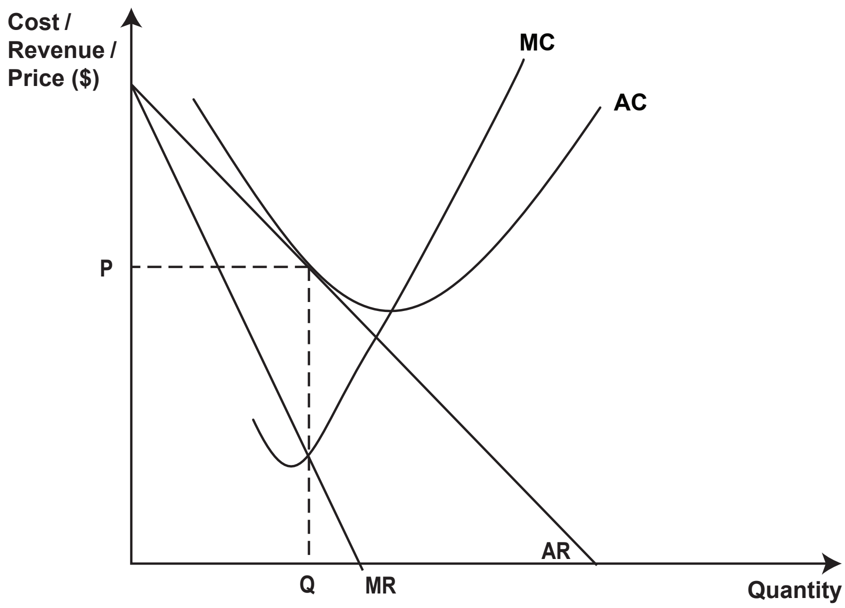
Graph Five: A monopolist earning a normal profit



(c) Use marginal analysis, and Graphs Four and Five, to compare and contrast the impact on the profit, price, and output decisions of a monopolist, of an increase in market demand with a reduction in fixed costs.

In your answer, include:

- the impact on a monopolist's profit of an increase in market demand
- the impact on a monopolist's profit of a reduction in fixed costs
- whether an increase in market demand or a reduction in fixed costs would have a greater impact on the profit-maximising price and profit-maximising quantity for a monopolist.

More answer space is available on the next page.

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Extra space if required.
Write the question number(s) if applicable.

QUESTION NUMBER

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