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NEW ZEALAND QUALIFICATIONS AUTHORITY
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QUALIFY FOR THE FUTURE WORLD
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Level 3 Economics, 2017

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

2.00 p.m. Wednesday 29 November 2017
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 2–8 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.

Achievement

TOTAL 09

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QUESTION ONE: EFFICIENCY OF MONOPOLY AND PERFECT COMPETITION

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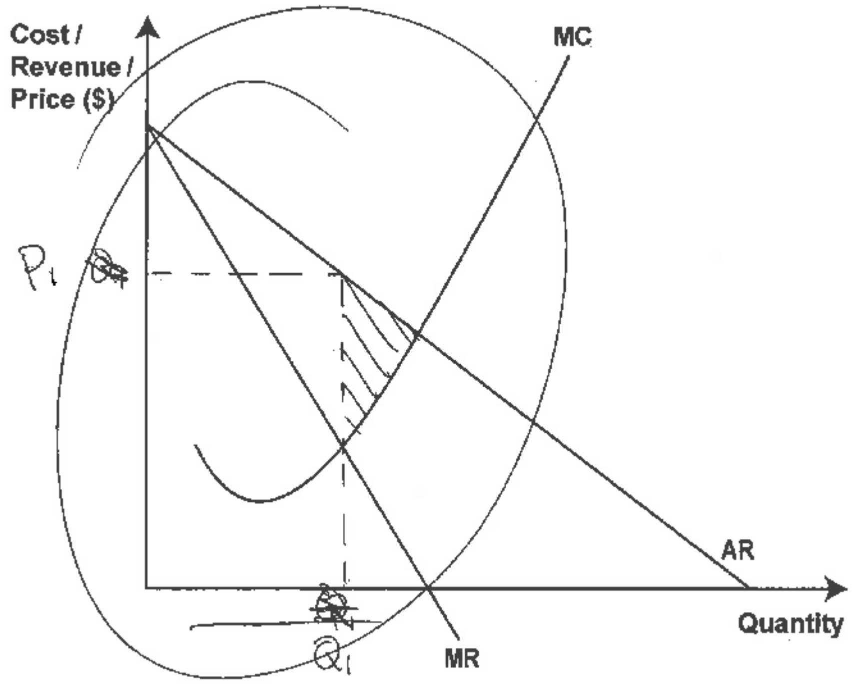
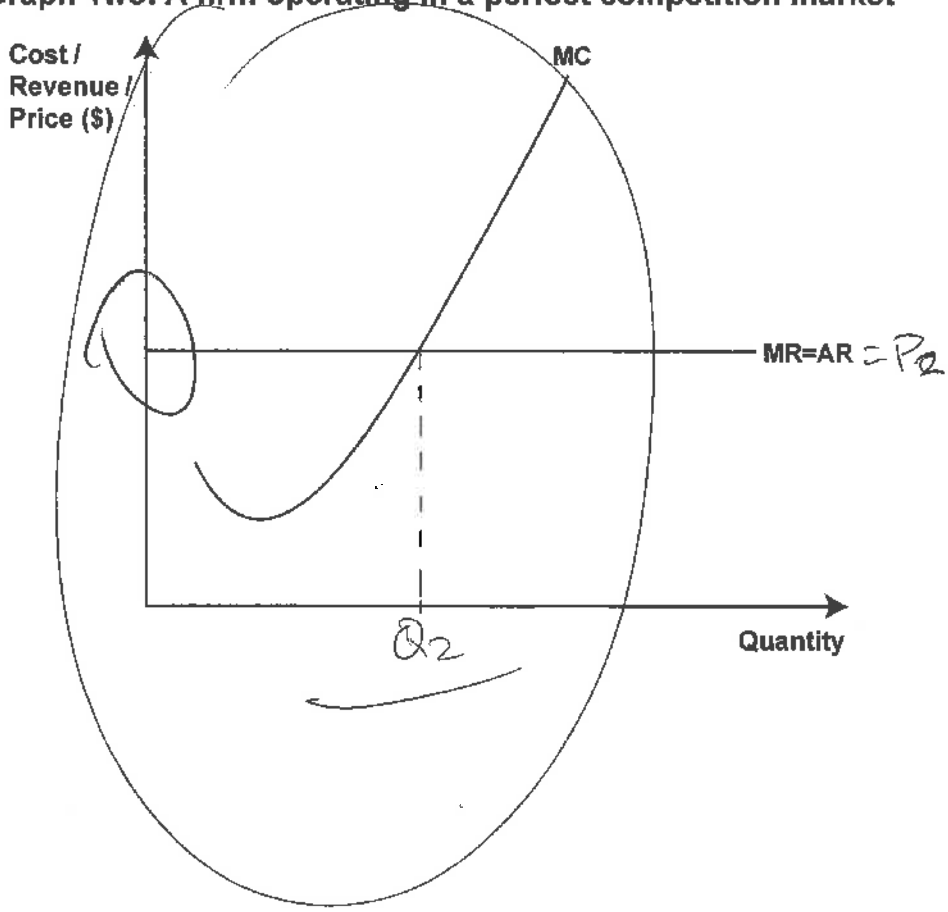
During the last 40 years, the New Zealand Government has implemented a number of policies designed to reduce monopoly power, encourage more competition, and increase efficiency in significant industries such as electricity, telecommunications, and broadcasting.

Graph One: A firm operating in a monopoly market



Graph Two: A firm operating in a perfect competition market



(a) (i) On Graph One, identify the profit-maximising price (P_1) and the profit-maximising quantity (Q_1) for the monopolist.

(ii) On Graph One, shade the deadweight loss.

(iii) On Graph Two, identify the profit-maximising price (P_2) and the profit-maximising quantity (Q_2) for the perfect competitor.

(b) Referring to both graphs and the key characteristics of both markets, explain in detail why a firm operating in a perfectly competitive market is allocatively efficient and why a firm operating in a monopoly market is NOT allocatively efficient.

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A monopoly has high barriers to entry, high setup costs, low mobility of resources ~~and can~~ and is a price setter ~~but~~ and no competition can control either price or quantity but not both. A perfect competitor has no barriers to entry, Perfect market knowledge, lots of competition ~~Perf~~ Perfect mobility of resources and is a price taker. Because the monopoly has no competition it will operat ~~and~~ at profit maximising output (mc = mr) as that is where they make the most profit, because of this the price will usually be artificially higher than it needs to be and not ~~everyo~~ consumer gets surplus creating dead weight loss, however the perfect competitor will operate where MC = MR also but due to all the ~~char~~ characteristics of a perfect competitor there are many other firms also operating ~~on~~ at MC = AR making the market allocatively efficient.

A4

QUESTION TWO: NATURAL MONOPOLY

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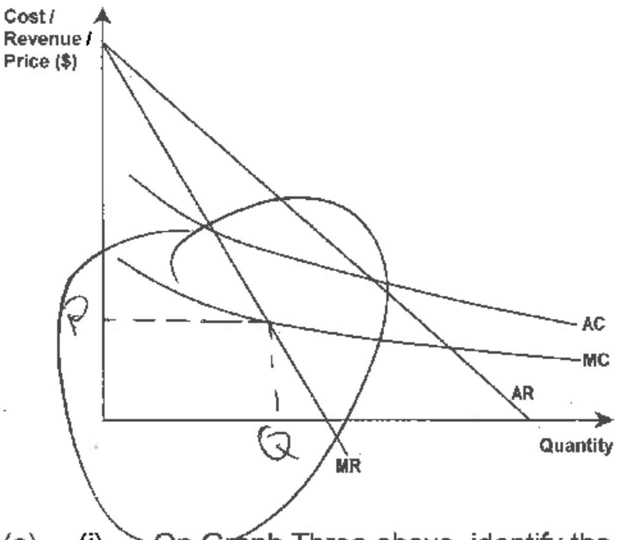
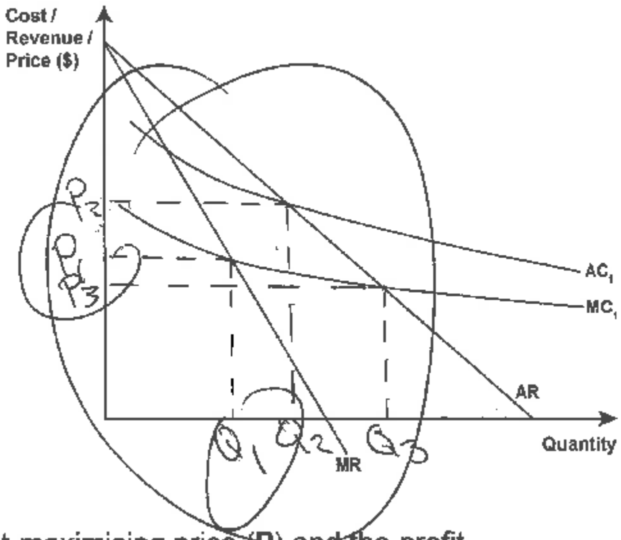
Graph Three: A natural monopoly



Graph Four: A natural monopoly after an increase in variable costs



(a) (i) On Graph Three above, identify the profit-maximising price (**P**) and the profit-maximising quantity (**Q**).

(ii) On Graph Four above, identify the profit-maximising price ($\mathbf{P_1}$) and the profit-maximising quantity ($\mathbf{Q_1}$).

(b) Use the concept of marginal analysis to explain in detail why the increase in variable costs has resulted in a lower quantity produced for the natural monopolist. Refer to both graphs.

The increase in variable costs caues both the MC and AC curves to move upwards as seen in the change between graph three and four. Due to the fact that a monopoly may either control price or quantity the natural monopoly must either reduce quantity which would increase price or increase price which would decrease quantity demanded to remain at the profit maximising output.

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As a result of the increase in price and reduction in quantity, the Government may decide to implement price controls to make the good more affordable for consumers and the market more efficient. Average cost pricing and marginal cost pricing are two examples of price controls that the Government could use.

(c) On Graph Four, identify

- the price (P_2) and quantity produced (Q_2) if the Government employed average cost pricing
- the price (P_3) and quantity produced (Q_3) if the Government employed marginal cost pricing.

(d) Referring to Graph Four, explain in detail:

- which of these two policies would be more beneficial for the consumer
- the impact of both price controls on allocative efficiency.

Marginal cost pricing would be more beneficial to the consumer as it increases consumer ~~a~~ surplus the most by both decreasing the price and increasing the quantity sold whereas average cost pricing would have little change on consumer surplus as it both increases price and decreases quantity. marginal cost pricing would make the market allocatively efficient by ~~a~~ removing all dead weight loss whereas average cost pricing would remove the amount of deadweight loss it would not get rid of it alltogether

A3

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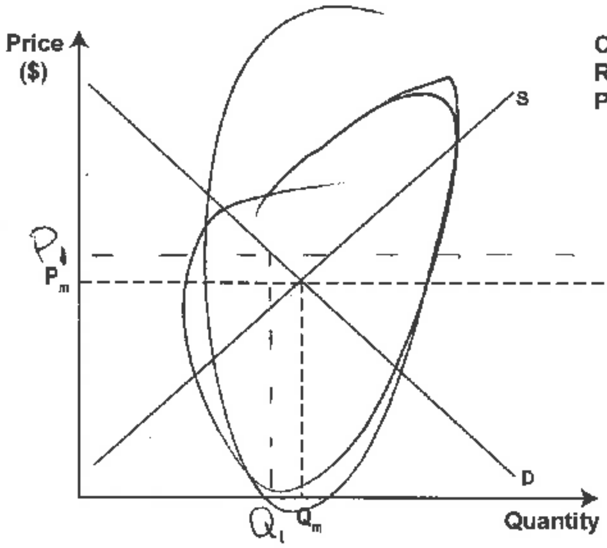
QUESTION THREE: PERFECT COMPETITION

The average rent in the Auckland region has increased 21 per cent in the last five years.

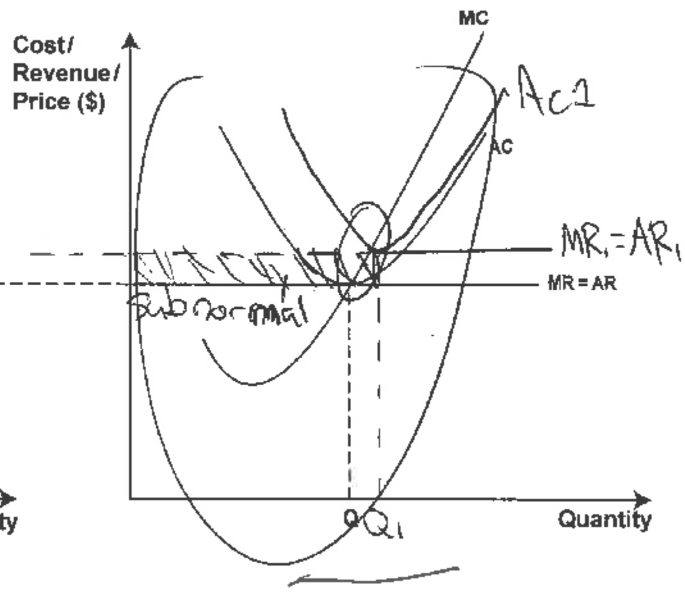
Source (adapted) http://www.stuff.co.nz/life-style/home-property/80706225/auckland-sees-massive-rent-increases--but-not-in-the-places-youd-expect

Increased rents have affected both residential and commercial properties in Auckland and will increase the fixed costs for firms that rent their premises.

Graph Five: The market



Graph Six: The individual perfectly competitive firm



(a) (i) Complete Graph Six to show the impact of an increase in fixed costs on the individual firm. Clearly label any curve shifts.

(ii) On Graph Six, clearly shade the new level of economic profit that would be earned by the individual firm as a result of the increase in fixed costs. Identify the profit as normal, supernormal, or subnormal.

(b) (i) Complete Graph Five to show how the market equilibrium price would be affected in the long run as a result of the increase in fixed costs.

(ii) On Graph Six, show how the changes in the market would affect the long-run levels of output and profit for the individual firm, assuming that the firm stays in the industry.

(c) Use marginal analysis to compare and contrast the short-run and long-run profit and output decisions of a perfect competitor after an increase in fixed costs. In your answer:

- refer to both graphs
- explain in detail the impact (if any) on the short-run level of output and profit for the individual firm as a result of an increase in fixed costs
- explain in detail how the long-run changes in the market would affect the long-run levels of output and profit for the individual firm, assuming that the firm stays in the industry.

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Over the short term the firm would produce a subnormal profit ~~causeing other firms to leave the market~~ because the increase in fixed costs would not affect revenue or cost to making one more meaning only the AC curve is shifted from AC to AC1. ~~the would be running a so subnormal because the cost to make~~ ~~too~~ + the subnormal profit would ~~ease~~ cause some firms to drop out the market which would decrease quantity supplied and in turn increase price, returning the firm to a normal level of profit where AC = AR and increasing quantity from Q to Q1

N2

Achievement exemplar 2017

<table>
<tr><td>Subject:</td><td>Economics</td><td>Standard:</td><td>91400</td><td>Total score:</td><td>09</td></tr>
</table>

<table>
<tr><th>Q</th><th>Grade score</th><th>Annotation</th></tr>
<tr><td>1</td><td>A4</td><td>The response has been awarded A4 because the candidate has:
correctly labelled P1,Q1 and the deadweight loss for the monopoly
identified that a monopoly can set the price or quantity and a PC firm is a price taker
explained that a monopoly has a deadweight loss
explained that a PC firm operates where MC = AR
To gain a M5 grade or better would require the candidate to link MC = AR to supply and demand and refer to total surpluses when explaining the deadweight loss concept. Specific graph references are also required.</td></tr>
<tr><td>2</td><td>A3</td><td>The response has been awarded A3 because the candidate has:
correctly labelled marginal cost and average cost pricing on Graph Four
explained that MC pricing is more beneficial as it increases consumer surplus the most, due to a lower price and higher quantity
stated that MC pricing is allocative efficient due to the deadweight loss being removed
To gain a M5 grade or better would require correct labelling of the profit maximising equilibrium for a natural monopolist and giving a valid reason for why a deadweight loss is removed with MC pricing. Specific graph references are also required.</td></tr>
<tr><td>3</td><td>N2</td><td>The response has been awarded N2 because the candidate has provided some achievement evidence by:
correctly shifting the MR = AR curve up to the normal profit position and labelling the long run quantity
explaining that the price would increase as some firms leave the market
explaining that firms will earn a normal profit where AC = AR
To gain a M5 grade or better would require the candidate to shift the supply curve on Graph Five and shade the subnormal profit correctly. The subnormal profit explanation should be linked to the increase in average or total costs which means AC is greater than AR (or TC greater than TR). Firms leaving the market should be specifically linked to the long run and a decrease in market supply.</td></tr>
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