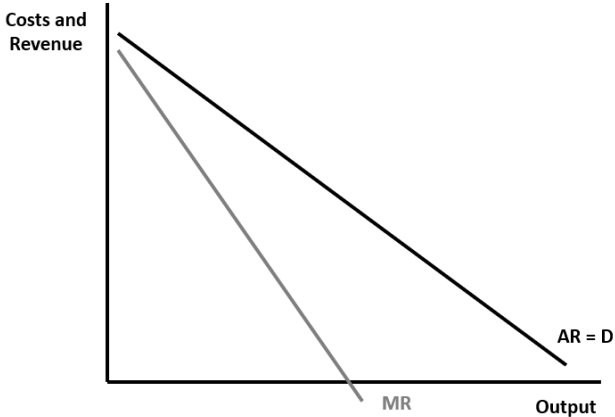
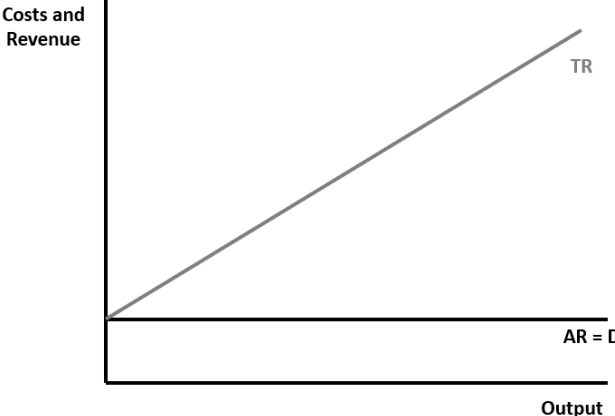
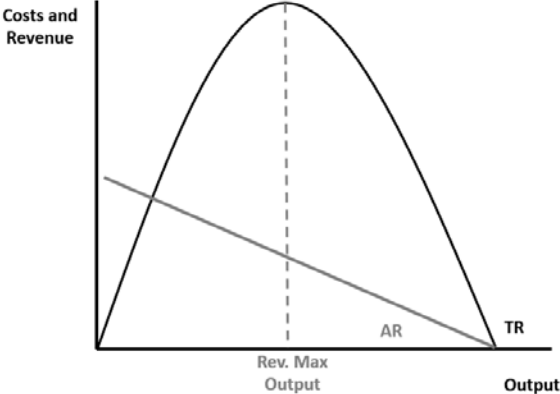
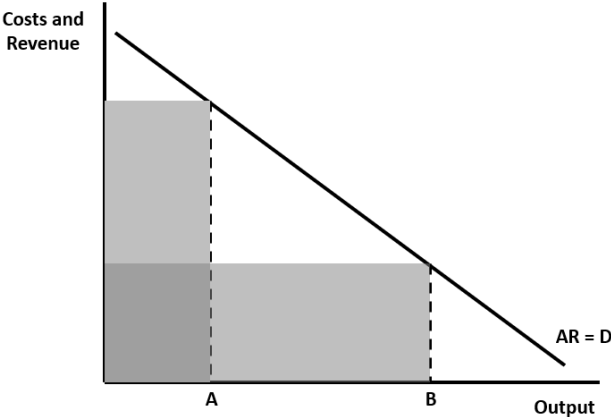
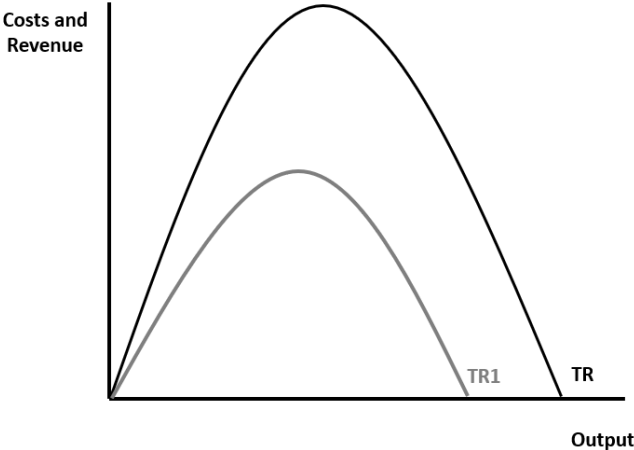
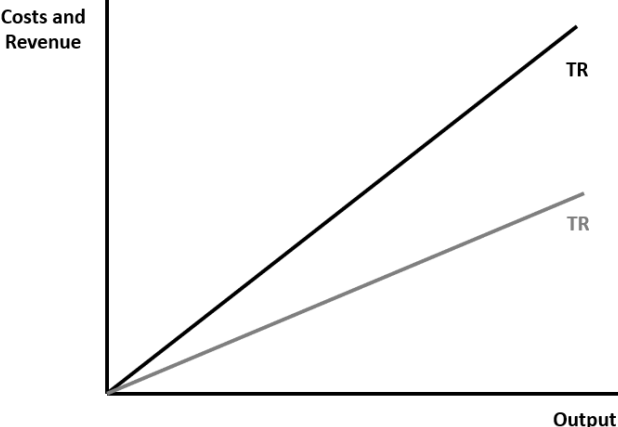
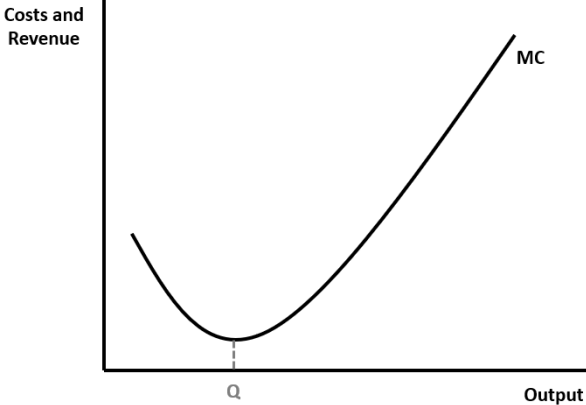


Diagrammatic Understanding Solutions

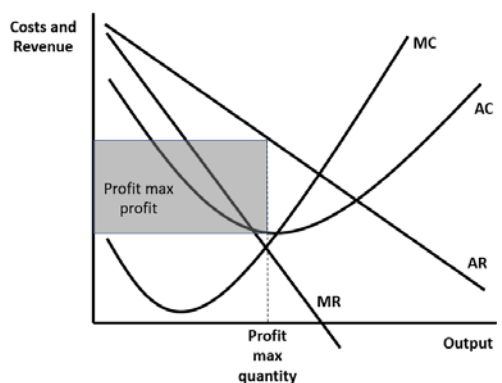
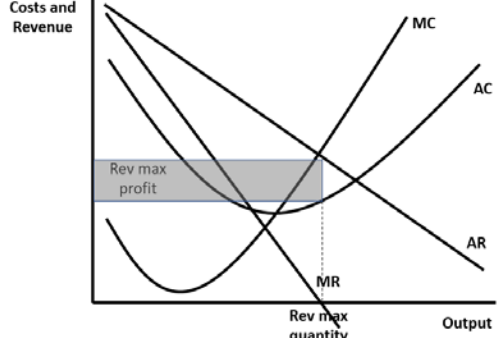
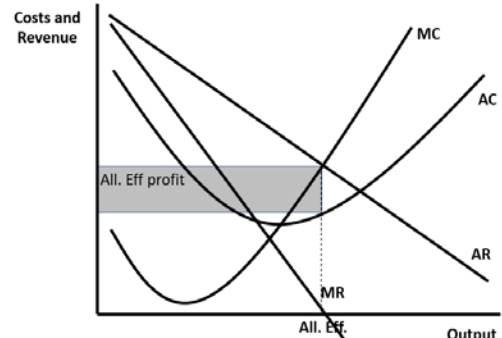
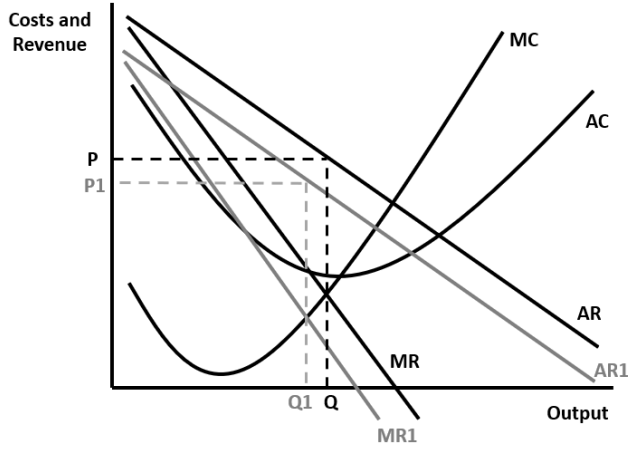
Economics CPD 2018

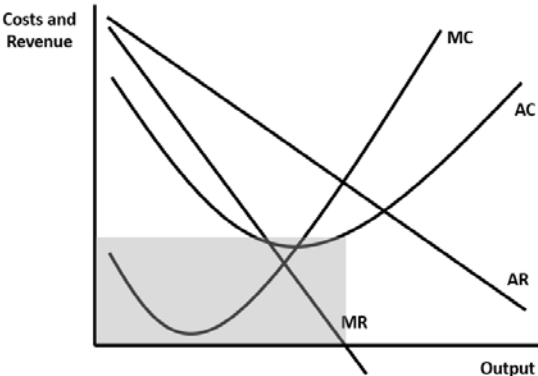
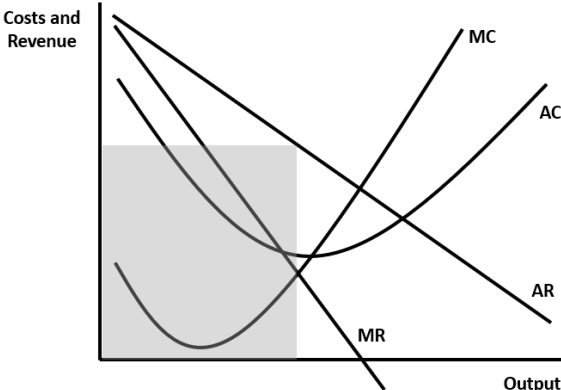
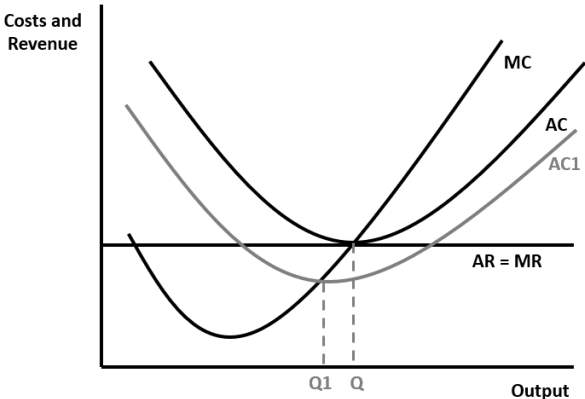
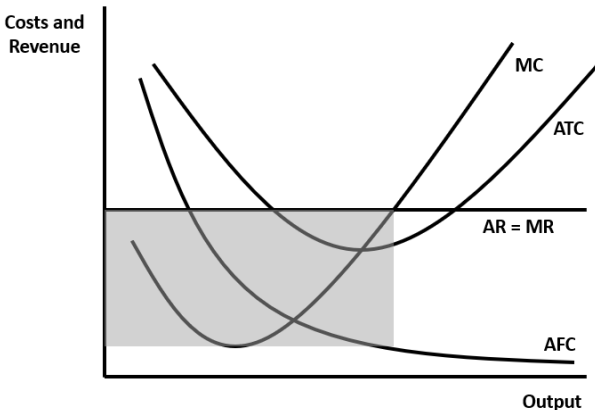
Diagrammatic Understanding

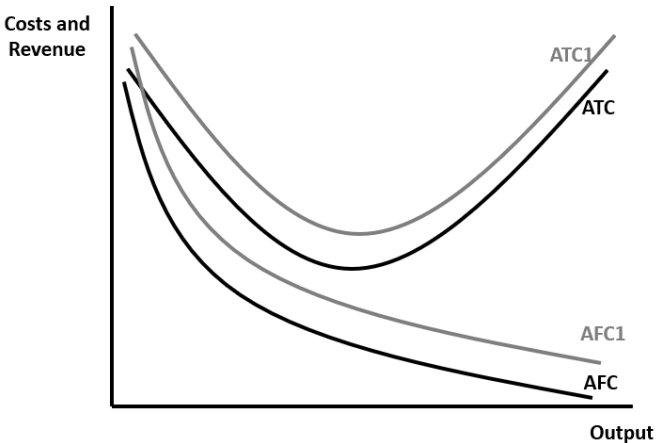
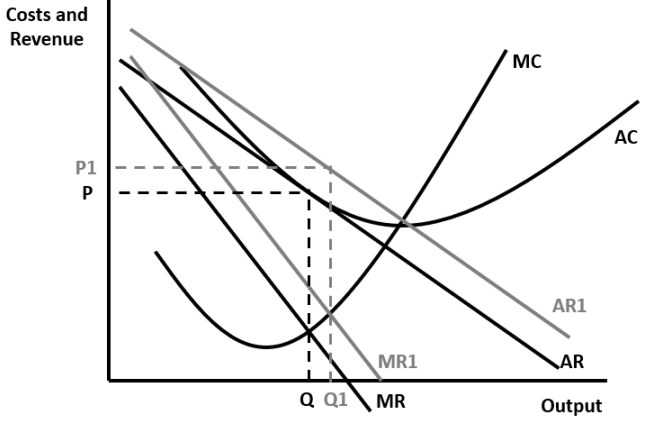
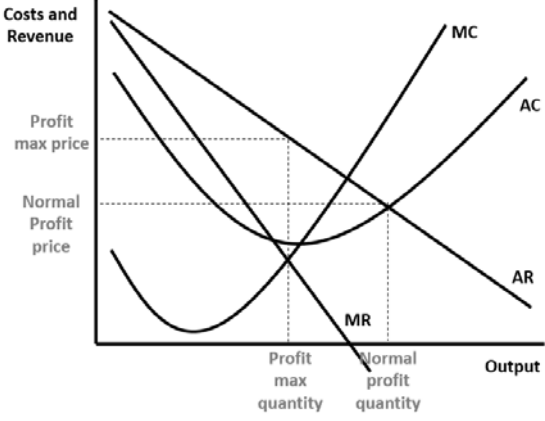
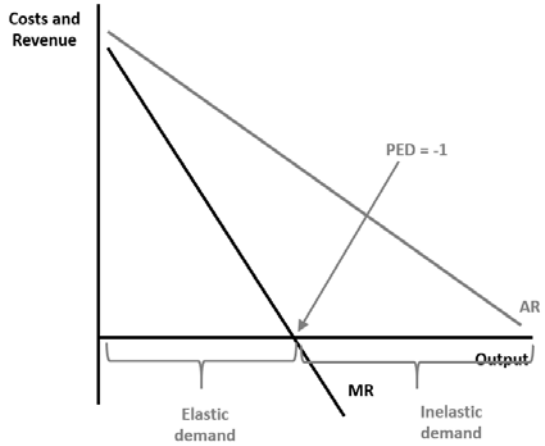
1		a. Explain why the AR curve is the same as the demand curve. $TR = PQ$ $AR = TR/Q = P$ b. On the diagram to the left, sketch the accompanying Marginal Revenue curve. c. Using your diagram, explain the relationship between MR and AR. <i>MR falls at twice the slope as AR i.e. bisects the gap between AR and the y-axis. This is because to sell an additional unit, the price of all previously sold units must also fall, so MR is less than price.</i>
2		a. On the diagram to the left, sketch the Total Revenue curve that corresponds to the Average Revenue curve shown. b. Explain whether the firm whose demand curve is represented on the left is a price-taker or a price-maker. Price-taker c. Show the MR curve associated with the AR curve. Identical to the AR curve
3		a. On the diagram to the left, sketch the Average Revenue curve associated with the Total Revenue curve shown b. Identify the revenue maximising level of output for the firm. c. Explain whether the firm whose total revenue curve is represented on the left is a price-taker or a price-maker. Price maker, as shown by the downwards sloping demand / AR curve

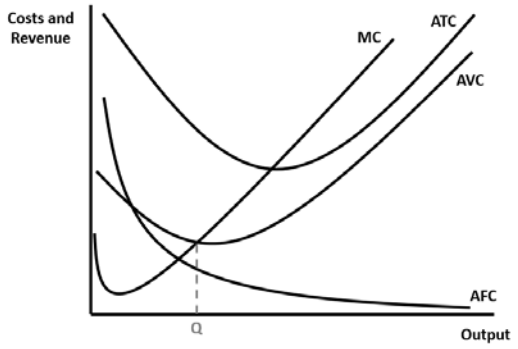
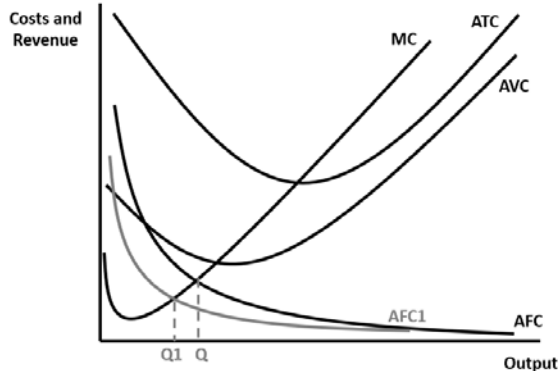
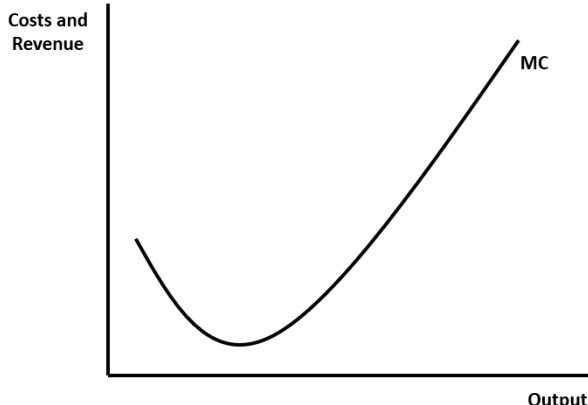
4		For each level of output, A and B, shown on the diagram, shade the corresponding area representing total revenue earned.
5		Adapt the diagram to the left to show the impact on total revenue of a decrease in demand (i.e. a left shift in the demand curve).
6		Adapt the diagram to the left to show the impact on total revenue for this firm if new firms enter the market.
7		Explain what is meant by the law of diminishing marginal returns, and indicate the point on the diagram at which it sets in. <i>The law of DMR is relevant in the SR, with at least 1 fixed factor. As more variable factors of production are added, the fixed factor becomes increasingly scarce / over-used, and so DMR sets in when the additional output added (i.e. marginal product) from 1 more variable factor falls – this corresponds with rising MC</i>
8		For each output level (D, E and F) shade the area that corresponds to the total

	Costs and Revenue	costs.
9	Costs and Revenue	a. Sketch the Average Variable Cost curve on the diagram to the left. b. Explain carefully the shape of the Average Fixed Cost curve. <i>AFC will fall constantly, as total fixed costs are spread over an increasingly large amount of output.</i>
10	Costs and Revenue	a. Indicate the productively efficient level of output on the diagram. b. Now adapt the diagram to show the impact on AC and MC of a decrease in the variable costs for this firm.
11	Costs and Revenue	Adapt the diagram to show the impact on AC and MC of an increase in the fixed costs for this firm. Explain your answer. <i>A change in fixed costs do not affect the marginal costs of production. Total costs will increase therefore average total cost will also increase.</i>

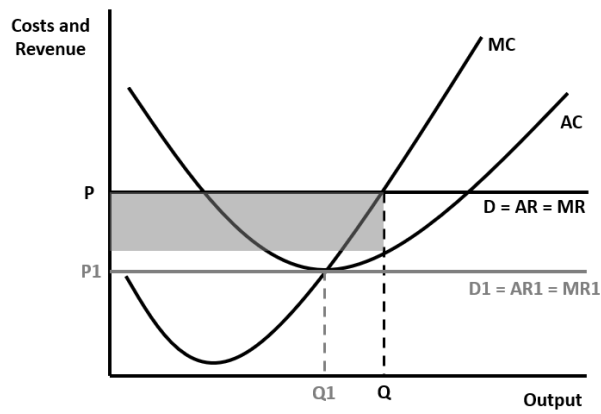
12		a. Shade the amount of supernormal profit earned when this firm chooses to profit maximise
		b. Shade the amount of abnormal profit earned when this firm chooses to maximise its revenue
		c. Shade the amount of abnormal profit earned when this firm choose to operate at the allocatively efficient level of output
13		Adapt the diagram to the left to show the impact on - Price - The level of output - The amount of abnormal profit earned if there is a fall in demand for the firm's product. You can assume that the firm aims to maximise its profit.
14		The firm represented by the diagram on

		the left aims to maximise its revenue. Explain what is represented by the shaded area. <i>Total costs for the firm, if it maximises its revenue</i>
15		The firm represented by the diagram has profit maximisation as its objective. Explain what is represented by the shaded area. <i>The total revenue earned when a firm aims to maximise profit</i>
16		Identify the profit maximising level of output for this firm. <i>Output level Q</i> The fixed costs for this firm fall. Adapt the diagram to show this change. <i>The fall in AC to AC1 – no change in MC</i> Identify the new profit maximising level of output in both i) the short run and ii) the long run <i>Short run output Q, long run output Q1</i>
17		The firm represented by the diagram on the left is a profit maximiser. Explain what is represented by the shaded area. <i>Total variable cost when the firm maximises profit</i>
18		A firm has the cost curves shown on the left. Adapt the diagram to show what

		happens to these curves when the firm's total fixed costs increase for all levels of output.
19		Adapt the diagram to show what will happen to this firm's price and level of output (assuming it profit maximises) if some firms decide to leave the industry.
20		The firm represented on the left is initially a profit maximiser. However, deregulation of the industry means that the market becomes highly contestable and the firm decides that it must aim to earn normal profit only. Show the change in the price and the level of output as a result of this scenario.
21		- Sketch the corresponding AR curve for the MR curve shown - Identify the range of output over which demand is price elastic - Identify the range of output over which demand is price inelastic - Identify the level of output at which price elasticity of demand is equal to -1

22	Costs and Revenue  Output	The diagram shows an MR curve for a firm. Explain what must be the case for the price elasticity of demand for this firm's products. <i>PED is perfectly elastic. The MR curve is the same as the AR curve.</i>
23	Costs and Revenue  Output	a. Identify the level of output at which this firm would decide to shut-down in the short-run. b. Suppose that the firm's total fixed costs now increase. What is the new level of output at which this firm would decide to shut down in the short-run? <i>Unchanged</i>
24	Costs and Revenue  Output	a. Identify the level of output at which the firm represented by the diagram on the left would decide to shut down in the long run, b. Suppose that the firm's total fixed costs now decrease. Identify the new level of output at which this firm would decide to shut down in the long run.
25	Costs and Revenue  Output	Explain why the marginal cost curve for a firm is also its supply curve. <i>Firms aim to maximise profit where $MR = MC$ so output will always trace the MC curve</i>

26



The firm represented on the left is operating in perfect competition

Show on the diagram the firm's price, output and profitability level in a) the short run and b) the long run