

Differing objectives and policies of firms

A2

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Read first: Price elasticity, income elasticity and cross elasticity of demand, Types of cost, revenue and profit, short-run and long-run production, Different market structures

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What you need to know

By the end of this topic you should be able to:

1. **Explain the traditional objective of profit maximisation:** a firm produces the output where marginal cost equals marginal revenue ($MC = MR$).
2. **Explain the other objectives a firm may have:** **survival**, **profit satisficing** (earning a profit that is "good enough"), **sales maximisation** (the largest output that still covers costs) and **revenue maximisation** (the largest total revenue), and show where each one is on a cost and revenue diagram.
3. **Explain price discrimination of the first, second and third degree:** the **conditions** a firm needs to make it work and its **consequences** for the firm, consumers and the economy.
4. **Explain three other pricing policies:** **limit pricing**, **predatory pricing** and **price leadership**.
5. **Explain how price elasticity of demand (PED) and a firm's revenue are linked**, both along a normal downward-sloping demand curve and on a **kinked demand curve**.

Cost curves and the profit-maximising rule are in "Types of cost, revenue and profit"; the kinked demand curve, barriers to entry and collusion are also in "Different market structures". This note uses them for objectives and pricing.

Understand it

Why objectives matter

A firm's **objective** is what it is trying to achieve. Its objective decides which output it chooses and so what price it charges. The same firm with the same costs and demand will charge a different price if its aim changes, so before you can say what a firm will do you need to know what it wants.

Profit maximisation

Traditional theory assumes firms want the **largest possible profit** (total revenue minus total cost). The rule is to produce where $MC = MR$:

- if the next unit adds more to revenue than to cost ($MR > MC$), making it raises profit, so expand;
- if it adds more to cost than to revenue ($MC > MR$), making it lowers profit, so cut back;
- profit is largest where the two are equal (with MC cutting MR from below).

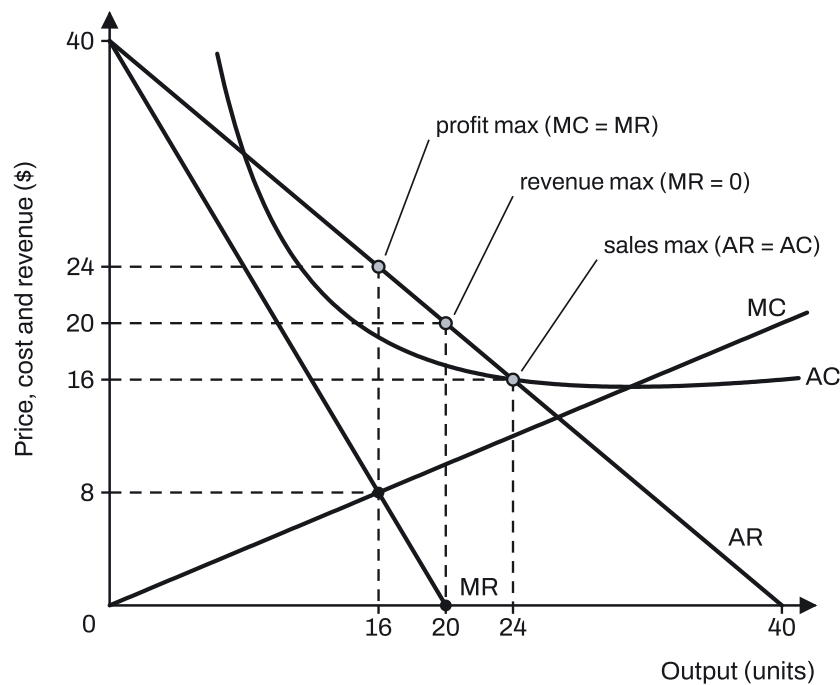
The price is read off the **AR (demand) curve** above that output, not off MR. Supernormal profit is $(AR - AC) \times Q$.

Profit maximisation is the usual assumption because owners (shareholders) want profit, profit pays for investment, and a firm that ignores profit may be taken over or close. But it needs a lot of information (exact MC and MR), and in large firms the people who decide (managers) are often not the people who own (shareholders). That is where other objectives come in.

Other objectives

- **Survival.** In the short run, a firm must at least cover its **variable costs**; in the long run, all its costs (normal profit). Survival comes first for new firms, small firms facing large rivals, and any firm in a recession or price war. It may accept losses for a while, cut prices or cut costs just to stay in business.
- **Profit satisficing.** The firm aims for a **satisfactory** profit, enough to keep the owners content, rather than the most possible. It happens when owners don't want the extra risk or effort (a family firm happy with a steady income), or when managers in control aim for a profit that keeps shareholders quiet and then pursue their own goals (status, a quiet life, more staff). This is the **principal-agent problem**: managers (agents) running the firm for shareholders (principals) with different aims.
- **Revenue maximisation** (also called **sales revenue maximisation**). The firm makes **total revenue** as large as possible. TR rises as long as an extra unit adds to revenue, so TR is at its peak where $MR = 0$. Managers whose pay or status depends on the firm's turnover, or a firm trying to look big to lenders or buyers, may choose this.
- **Sales maximisation** (also called **sales volume maximisation**). The firm sells the **largest output it can without making a loss**, that is while still earning **normal profit**. Output keeps rising until AR has fallen to AC, so the condition is $AR = AC$. A firm aiming for the biggest market share, or to squeeze out rivals, or to clear stock, may choose this.

All four on one diagram



This firm has $AR = 40 - Q$, so $MR = 40 - 2Q$, and total cost $TC = 240 + \frac{1}{4}Q^2$, so $MC = \frac{1}{2}Q$ and $AC = \frac{240}{Q} + \frac{1}{4}Q$.

Objective	Condition	Output	Price	AC	Profit
Profit maximisation	$MC = MR$	16	\$24	\$19	\$80
Revenue maximisation	$MR = 0$	20	\$20	\$17	\$60
Sales maximisation	$AR = AC$	24	\$16	\$16	\$0 (normal)

The pattern to remember: **moving from profit to revenue to sales maximisation, output rises and price falls**, and profit falls (to normal profit at sales maximisation). Revenue maximisation can still give supernormal profit, as here, because AR is still above AC at 20 units.

Two warnings:

- Sales maximisation is usually at a larger output than revenue maximisation, as here. But if AC is high, AR may reach AC **before** MR reaches 0; then the largest output without a loss is smaller than the revenue-maximising output.
- The point where AR crosses **MC** ($P = MC$, the allocatively efficient output) is a different point from $AR = AC$. Diagram questions often put both on the axis as options.

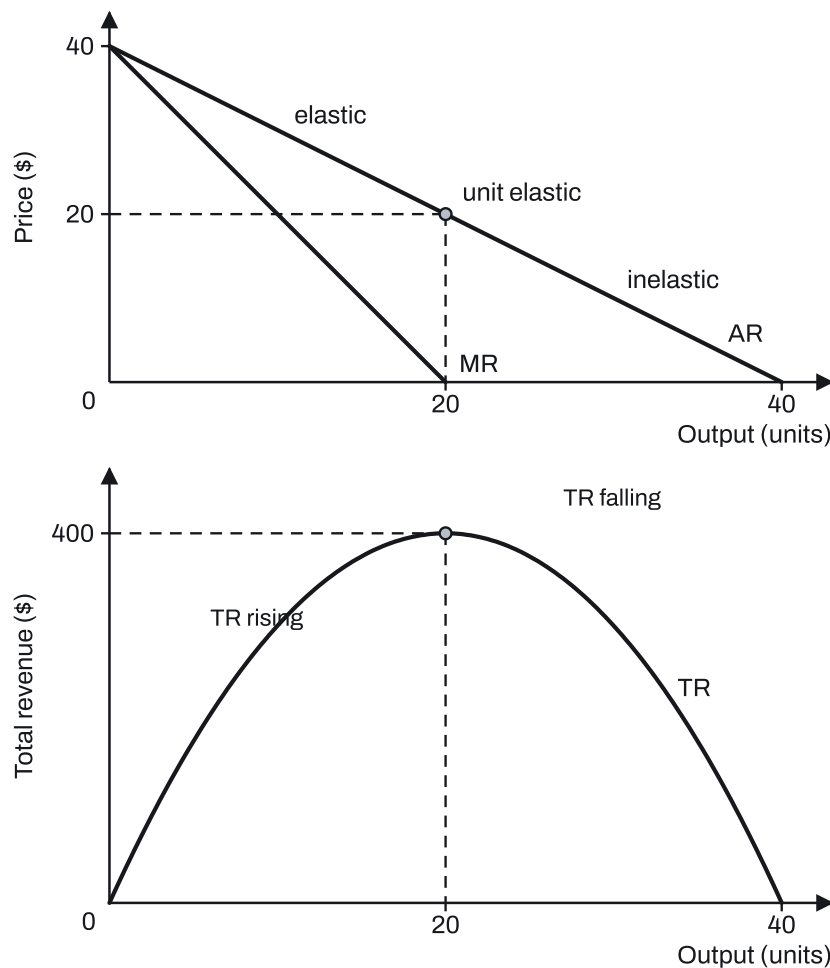
Price elasticity of demand and revenue

Total revenue is $P \times Q$. Whether a price change raises or lowers it depends on PED:

Demand at that price	A price cut	A price rise	MR
Elastic (PED numerically above 1)	TR rises	TR falls	positive
Unit elastic (PED = -1)	TR unchanged	TR unchanged	zero
Inelastic (PED numerically below 1)	TR falls	TR rises	negative

On a **straight-line** demand curve PED is not constant: demand is elastic in the top half, unit elastic at the **midpoint** and inelastic in the bottom half. MR is positive while demand is elastic, zero at the midpoint and negative after it. So:

- the TR curve is an **upside-down U**: rising while demand is elastic, at its peak where PED = -1 and MR = 0, then falling;
- revenue maximisation is where PED = -1**;
- a profit-maximising firm always produces where demand is **elastic**, because MC is positive, so MR = MC needs MR above 0.



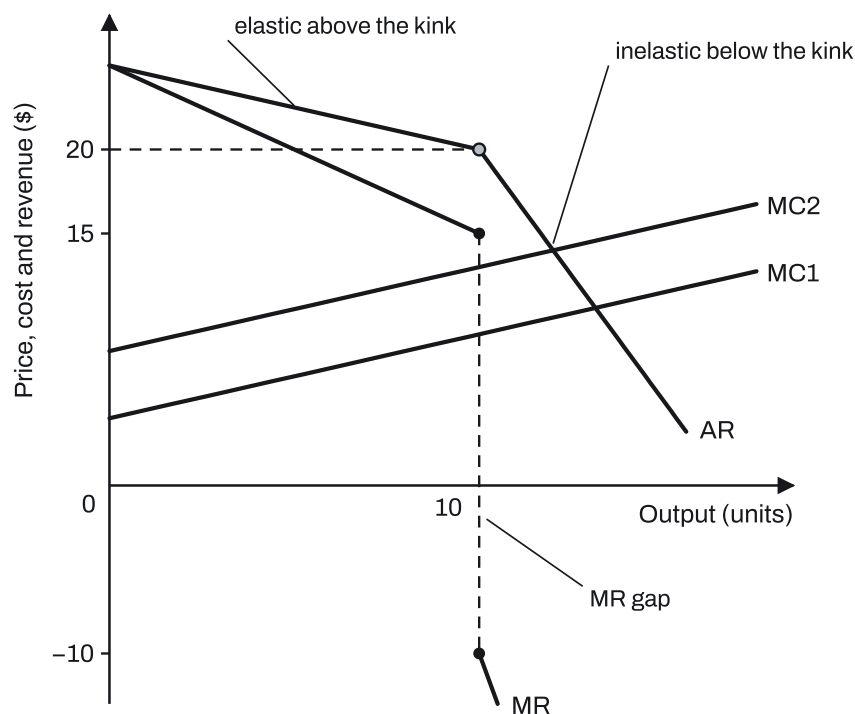
For $AR = 40 - Q$: at 10 units TR is $30 \times 10 = 300$; at 20 units it is $20 \times 20 = 400$, the peak; at 30 units it is $10 \times 30 = 300$ again.

Why firms like inelastic demand. A firm whose product has **low PED** (few substitutes, a strong brand, a necessity or a specialised luxury bought by people who don't compare prices) can raise its price and its revenue together. If demand also has a **high income elasticity**, revenue grows as incomes rise.

The kinked demand curve

In an oligopoly a firm doesn't know how rivals will react. The kinked demand model assumes:

- if it **raises** its price, rivals **ignore** it (they are happy to win its customers), so its demand is **elastic** above the current price and a rise **lowers TR**;
- if it **cuts** its price, rivals **copy** it (to protect their market share), so it gains few customers: demand is **inelastic** below the current price and a cut also **lowers TR**.



Here demand is $P = 25 - 0.5Q$ above the kink and $P = 50 - 3Q$ below it. At the kink, TR is $20 \times 10 = 200$ dollars.

- Raise the price to \$22: on the elastic part $Q = 6$, and TR falls to \$132.
- Cut it to \$17: on the inelastic part $Q = 11$, and TR falls to \$187.

So the firm has no revenue reason to change price: prices in oligopoly tend to be **stable (price rigidity)**.

Because the two parts of demand have different slopes, **MR has a vertical gap** below the kink. MC can rise or fall anywhere inside the gap (here from MC1 to MC2) and $MC = MR$ still gives 10 units at \$20, so moderate cost changes leave the price unchanged.

Price discrimination

Price discrimination means charging **different prices to different consumers for the same product**, where the difference is **not** due to a difference in the cost of supplying them. A ticket that costs more because the seat is better is not price discrimination; the same seat sold at two prices is.

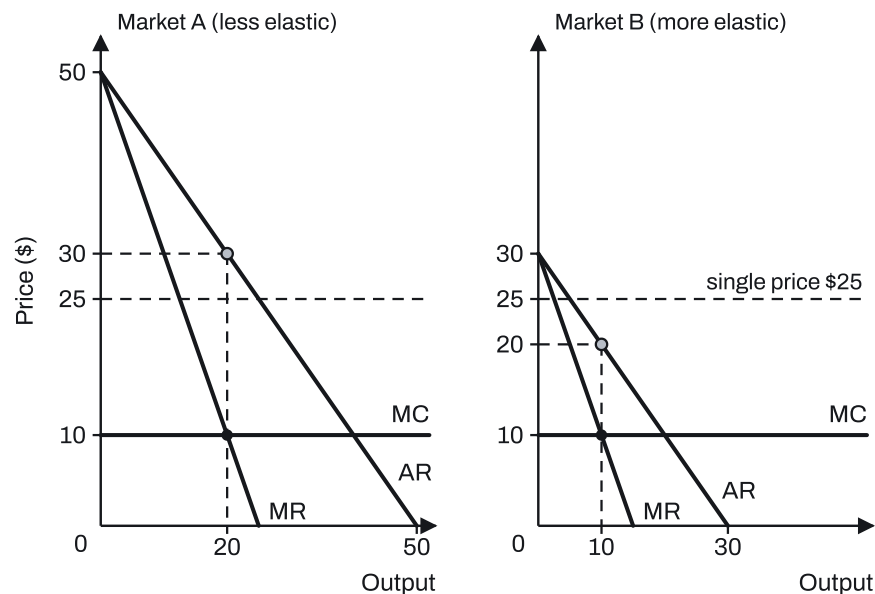
Conditions for effective price discrimination:

1. **Price-making power.** The firm must be able to set its price (a monopoly or oligopoly, not a perfectly competitive firm, which faces a perfectly elastic demand curve).
2. **Separate markets.** The firm must be able to keep the groups apart (by age, time, location, type of customer) and stop **resale**: buyers in the cheap market must not be able to sell to buyers in the dear one. Services such as travel, haircuts and medical care are hard to resell, which is why price discrimination is common there.
3. **Different PEDs** in the separate markets. If every group had the same PED, the profit-maximising price would be the same in each and there would be nothing to gain.
4. The cost of separating the markets must be less than the extra revenue.

The three degrees:

- **First degree** (perfect): each consumer pays the **most they are willing to pay**. All consumer surplus becomes revenue for the firm. The firm keeps selling as long as someone will pay at least MC, so output rises to where $P = MC$. In practice it needs very detailed information (auctions, haggling and personalised online prices come closest).
- **Second degree**: the price depends on **how much is bought**: bulk discounts, a lower price for units beyond a set number, multi-buy offers, or a lower price per unit for a season ticket. It lets the firm sell extra units it could not sell at the normal price, often using spare capacity.
- **Third degree**: consumers are split into **groups** that pay different prices: students and adults, peak and off-peak travellers, domestic and foreign buyers, early and late bookers. The group with **less elastic** demand pays the **higher** price.

How third degree works. The firm sets $MR = MC$ in **each** market separately.



The firm's MC is \$10. Market A has demand $P = 50 - Q_A$ and market B has $P = 30 - Q_B$.

- **Market A:** $MR = 50 - 2Q_A = 10$, so $Q_A = 20$ at \$30. PED there is -1.5 .
- **Market B:** $MR = 30 - 2Q_B = 10$, so $Q_B = 10$ at \$20. PED there is -2 , more elastic, so the lower price.
- **Profit:** $(30 - 10) \times 20 + (20 - 10) \times 10 = 500$ dollars.
- **With one price for everyone**, the combined demand is $P = 40 - \frac{1}{2}Q$, so $MR = 40 - Q = 10$ gives 30 units at \$25 and profit of $(25 - 10) \times 30 = 450$ dollars.

Discrimination raises profit by \$50. Market A's buyers pay \$5 more; market B's pay \$5 less and buy more.

Consequences of price discrimination

	Gains	Losses
The firm	more revenue and profit; uses spare capacity (off-peak seats); profit can fund investment and research (dynamic efficiency)	costs of separating markets and checking eligibility; bad publicity if it seems unfair
Consumers	the elastic group pays less (often students, the elderly, lower-income buyers); some people buy who would not be served at a single price; a service may survive only because discrimination covers its costs	the inelastic group pays more; consumer surplus is turned into producer surplus (all of it in first degree)
Society	output may be higher than at a single monopoly price (in first degree it reaches $P = MC$, the allocatively efficient output); profits may cross-subsidise loss-making services	income moves from consumers to the owners of the firm; the firm needs and keeps market power

Other pricing policies

- **Limit pricing.** An existing firm (often a monopoly or dominant firm) sets its price **below the profit-maximising level**, at or just below the **lowest average cost a new entrant could achieve**. An entrant could not cover its costs at that price, so it stays out. The incumbent gives up some profit **now** to keep its market power **in the long run**. It can only do this if its costs are lower than an entrant's (economies of scale, experience). To draw it, add an entrant's minimum AC as a horizontal line below the profit-maximising price; the limit price is on that line, at a larger output.
- **Predatory pricing.** A dominant firm cuts its price **below its own average cost** (sometimes below AVC), accepting **losses**, to **force existing rivals out** of the market. Once they have gone, it raises its price to recover the losses. It needs deep pockets (cash reserves, profits from other markets) and is usually **illegal** under competition law.
- **Price leadership.** In an **oligopoly**, one firm (usually the largest or lowest-cost, the **dominant** firm, or one trusted to read the market, a **barometric** leader) sets or changes its price and the others **follow**. It avoids a price war and keeps prices stable without a formal agreement, a form of **tacit collusion**. It needs a few interdependent firms, so it belongs to oligopoly, not to perfect competition, monopolistic competition or pure monopoly.

	Limit pricing	Predatory pricing
Aim	keep new firms out	drive existing rivals out
Price compared with the incumbent's own AC	above AC: still profitable	below AC: a loss
Timing	can last for years	temporary, then the price rises
Legal?	usually legal	usually illegal

Key facts and formulas

There is no formula list in the 9708 exam, so everything here is "Learn it".

Formula	Status
Profit maximisation: $MC = MR$ (with MC rising through MR)	Learn it
Revenue maximisation: $MR = 0$, where $PED = -1$	Learn it
Sales maximisation (normal profit): $AR = AC$	Learn it
Total revenue = $P \times Q$; profit = $TR - TC = (AR - AC) \times Q$	Learn it
A straight-line demand $P = a - bQ$ has $MR = a - 2bQ$	Learn it

Formula	Status
$PED = \frac{\% \Delta Q}{\% \Delta P}$; elastic: TR moves the opposite way to price; inelastic: the same way	Learn it
The change in TR between two outputs is the area under MR between them	Learn it
Third-degree price discrimination: $MR_A = MR_B = MC$; the market with the less elastic demand pays the higher price	Learn it

How to do it

We tagged 56 questions for this topic from 2021 to March 2026 (48 different; 8 are repeats across paper variants): 46 Paper 3 multiple choice and 10 Paper 4 essay and data-response questions. For Paper 4 we count only the parts about this topic. One essay part, [9708/41/O/N/22 Q3](#), is about both objectives and limit pricing, so the counts add up to 57.

Question type	Questions
Objectives on a cost and revenue diagram	16
Objectives: conditions, reasons and consequences	16
Price discrimination	12
PED, total revenue and the kinked demand curve	8
Limit pricing, predatory pricing and price leadership	5

Paper 4 essays were 25 marks (12- and 13-mark parts) in 2021–2022 and are 20 marks from 2023: up to 14 for knowledge and analysis (Table A) and 6 for evaluation (Table B). Data-response parts are 2–8 marks.

1. Objectives on a cost and revenue diagram (16 questions)

All multiple choice.

1. **Label the four key points** before reading the options: where MC cuts MR (**profit maximisation**), where MR cuts the quantity axis (**revenue maximisation**), where AR meets AC on the way down (**sales maximisation**, normal profit), and where AR meets MC ($P = MC$, a distractor).
2. **Read the output on the quantity axis** below the point.
3. **For a price, go up to AR** from that output, never stop at MR or MC. The revenue-maximising price is the height of AR above the output where MR is 0.
4. **For a change of objective**, compare the two outputs: profit → revenue or sales maximisation is an **increase** in output and a **fall** in price.

Variations you will meet:

- **"Which area shows the increase in total revenue?"** TR is the area under MR, so moving from $MC = MR$ to $MR = 0$ adds the area **under MR** between the two outputs. Areas under MC are extra **costs**; the area between MC and MR is the **lost profit**.
- **Profit and revenue after a move from Q_1 to Q_2 :** if Q_1 is where $MC = MR$ and Q_2 is where $MR = 0$, profit falls and revenue rises.
- **Type of profit at each output:** compare AR with AC there. Above: supernormal; equal: normal; below: subnormal. Revenue maximisation often still gives supernormal profit; sales maximisation gives normal profit.
- **"What would not explain the move from P1Q1 to P2Q2?"** (a lower price and higher output): wanting to clear stock, deter entrants, gain economies of scale or market share all fit; "maximise profit" does not.
- **Labels such as "AR = P = D"** on a sloping line just mean the demand curve; find MR beneath it as usual.

2. Objectives: conditions, reasons and consequences (16 questions)

Multiple choice (14).

- **Match the condition:** $MC = MR$ is profit maximisation; $MR = 0$ is revenue (sales revenue) maximisation; $AR = AC$ is sales (volume) maximisation with normal profit. " $MC = AR$ " and " MC at its minimum" are not objectives in this topic.
- **"A firm maximises profit by maximising revenue. What does this imply?"** The two outputs coincide only if $MR = MC$ where $MR = 0$, so **MC is zero**.
- **Identify the objective from a story:** a target of "enough" revenue or profit for an acceptable performance → **satisficing**; the highest price that still sells every unit (all the tickets, all the stock) → **sales maximisation**; the biggest turnover → **revenue maximisation**.
- **When are objectives most likely to differ from profit maximisation?** When ownership and control are separated: many small shareholders and a firm run by salaried managers (the principal–agent problem). Active shareholders, easy takeovers and fixing output at $MC = MR$ all push a firm towards profit maximisation.
- **Why switch from revenue to sales maximisation?** To maximise **market share** in the short run; it does not raise profit and need not minimise average cost.
- **Why produce where $MR = 0$ instead of $MC = MR$?** To sell more, at a lower price; never "to make more profit".

Essay (2). For "evaluate the consequences for price and output of switching from profit to sales maximisation" (20 marks):

1. **Define** both objectives and the principal–agent problem (shareholders want profit, managers may want size, so they choose sales maximisation).
2. **Diagram** with AR, MR, MC and AC: profit maximisation at $MC = MR$; sales maximisation at $AR = AC$, a **higher output and lower price**, and supernormal profit falls to normal profit.
3. **Analyse the consequences:** consumers gain lower prices, more output and more consumer surplus; shareholders lose profit; the firm gains market share and may gain economies of scale.

4. **Evaluate:** the output at $AR = AC$ is past $P = MC$, so too many resources go to this product (allocative inefficiency); lower profit may cut investment; owners may react with profit-related pay or the firm may face a takeover; the sizes of the changes depend on PED and on the shape of AC; managers may only satisfice rather than maximise sales.
5. **Conclude** on price and output separately: output rises and price falls, but whether that is good depends on who you ask.

For "monopolies always aim to maximise profit" (12 or 20 marks): explain $MC = MR$ and why owners want it; then question "always": the principal-agent problem, satisficing, revenue or sales maximisation, and limit pricing (giving up short-run profit to protect long-run profit).

3. Price discrimination (12 questions)

Multiple choice (6).

- **Conditions:** price-making power, markets that can be **kept separate with no resale**, and **different PEDs**. Wrong options: the same PED in every market, perfectly elastic demand, buyers who can resell, "price leadership", low barriers to entry, everyone in one location, the same MR curve in each market.
- **Spot it in a story:** the same product sold at different prices to different people, or at different times (early bookers paying less than late bookers), with no difference in cost.

Essays (6). Typical tasks: "assess the view that price discrimination always benefits the producer at the expense of consumers and society", "discuss whether consumers or producers benefit more", "price discrimination is always possible but never desirable", "is the ability to discriminate determined by market structure?".

1. **Define** price discrimination and give a real example.
2. **Conditions**, explained: why each is needed. Link them to **market structure**: a perfectly competitive firm can't discriminate (no price-making power); a monopoly or oligopoly can if the other conditions hold.
3. **Analyse at least one model**, usually third degree with a two-market diagram: $MR = MC$ in each market, the higher price in the less elastic market, more profit than a single price.
4. **Effects on each group** named in the question: the producer (profit, spare capacity), consumers (some pay more, some less; surplus transferred), society (output, efficiency, equity).
5. **Evaluate the key word:** "always" (the producer gains if it is rational, but consumers in the elastic market gain too; profits can fund research; output may rise); "possible" (not without the conditions); "desirable" (it can keep a service running).
6. **Conclude:** the producer benefits by design, but whether it is at the expense of consumers and society depends on the degree, the markets and how the profit is used.

4. PED, total revenue and the kinked demand curve (8 questions)

All multiple choice.

- **TR curve from a straight-line demand:** an upside-down U, peaking at the output where demand is unit elastic.
- **"PED is exactly -1 ; which output?":** where $MR = 0$ (the revenue-maximising output, the midpoint of a straight-line demand curve).
- **Higher profit in specialised luxury markets:** high income elasticity (spending rises with income) and **low** price elasticity (the price can be raised without losing many sales).
- **Kinked demand curve:** rivals **ignore a rise and copy a cut**, so demand is elastic above the kink and inelastic below. It predicts **price stability**, not that oligopolists can't maximise profit or that satisficing is best.

5. Limit pricing, predatory pricing and price leadership (5 questions)

Multiple choice (2). A low price to keep new firms out is **limit pricing**; a price below cost to drive rivals out is **predatory pricing**; one firm setting the price that others follow is **price leadership**, which needs an **oligopoly**.

Data response "distinguish" (4 marks) (1). Give each policy its definition (1 + 1) and the difference in aim or price compared with cost (1 + 1): limit pricing deters entry at a price that still covers the incumbent's costs; predatory pricing is a loss-making price meant to remove existing rivals. "Is there evidence in the extract?": quote the words that show a policy (for example, a firm able to "undercut" newcomers using its cash reserves), say which policy they fit, and say what is missing (an actual price below cost).

Essays (2). For "limit pricing benefits consumers in the short run but costs them in the long run":

1. **Explain** the monopoly's profit-maximising price ($MC = MR$) and how limit pricing lowers it to the entrant's minimum AC; use the diagram.
2. **Short run:** consumers gain a lower price and higher output than under profit maximisation.
3. **Long run:** entry is blocked, so the firm keeps market power and may raise the price later; less choice, less pressure to innovate.
4. **Evaluate:** if the firm's lower costs come from economies of scale or innovation (dynamic efficiency), prices may stay low; a contestable market or a regulator can stop price rises; compare with predatory pricing, which is more clearly harmful.
5. **Conclude** on each half of the statement.

For "the importance of high concentration for the pricing policy of an oligopoly", explain interdependence, then the kinked demand curve (price rigidity), price leadership, collusion and non-price competition.

Worked examples

Example 1

The table shows a firm's total revenue and total cost.

Output (units)	20	30	40	50	60	70
Total revenue (\$)	1 600	2 100	2 400	2 500	2 400	2 100
Total cost (\$)	1 000	1 200	1 550	1 950	2 400	3 000

At which outputs does the firm maximise profit, maximise revenue and maximise sales while earning normal profit?

	Profit maximisation	Revenue maximisation	Sales maximisation
A	30	50	60
B	40	50	60
C	30	60	50
D	50	50	70

[1]

Profit = TR – TC: 600, 900, 850, 550, 0 and –900 dollars, largest at **30** units. TR is largest, \$2 500, at **50** units. The largest output with TR at least equal to TC (normal profit, AR = AC) is **60** units. The answer is **A** (1).

Example 2

A swimming pool charges adults and students different prices for the same swim. The extra cost of one more swimmer is a constant \$2. Weekly demand is $P = 8 - 0.01Q$ for adults and $P = 4 - \frac{Q}{150}$ for students.

(a) Calculate the profit-maximising price in each market. [3]

(b) Calculate the PED in each market at those prices and explain why students pay less. [3]

(a) Set MR = MC in each market (1). Adults: $MR = 8 - 0.02Q = 2$, so 300 swims at \$5. Students: $MR = 4 - \frac{2Q}{150} = 2$, so 150 swims at \$3 (1 + 1).

(b) Adults: $Q = 800 - 100P$, so $PED = -100 \times \frac{5}{300} = -1.67$. Students: $Q = 600 - 150P$, so $PED = -150 \times \frac{3}{150} = -3$ (1). Student demand is more elastic, since students have lower incomes and more alternatives (1), so a lower price gains the pool more extra revenue from them, while adults, being less responsive, can be charged more without losing many swims (1).

(Check: with one price for everyone, the pool's best price is \$5, at which no students swim, for a profit of $3 \times 300 = 900$ dollars. Discriminating earns $3 \times 300 + 1 \times 150 = 1\,050$ dollars and lets 150 student swims happen.)

Example 3

Extract: Lumo Cinemas runs the only multiplex in a large town. An evening ticket costs \$12. Students with a card pay \$6 for any film that starts before 5 pm, when 70% of seats were empty last year. Customers can also buy a pass for five films at \$40. Since the new prices began, ticket sales have risen by a quarter and Lumo's

profit has risen by 15%. A film club in the town says that working adults, who can only come in the evening, "are paying for everyone else's discounts".

Consider whether Lumo's pricing policy benefits its customers. [8]

Marked like a data-response "consider" part: up to 4 marks for each side and 1 for a conclusion, 8 maximum.

It benefits customers. Students pay \$6 instead of \$12, half the evening price, so people with low incomes and elastic demand can afford films they would otherwise miss (1). The pass cuts the price to \$8 a film, second-degree price discrimination that rewards frequent customers (1). Sales have risen by a quarter, so more people are watching films: output is higher than under one price, and seats that would be empty in the afternoon are used (1). The extra profit may let Lumo keep the cinema open or improve it, which benefits all its customers (1).

It does not benefit them all. Working adults can only come in the evening, so their demand is less elastic and they pay the full \$12 (1). The film club's claim suggests their consumer surplus is being turned into Lumo's profit, which is up 15% (1). Lumo is the town's only multiplex, so evening customers have no cheaper alternative and Lumo's market power lets it keep that price high (1). The discounts are aimed at raising Lumo's profit, not at fairness, and could be withdrawn once habits are formed (1).

Conclusion. Students, afternoon viewers and regular film-goers gain, while evening adults pay a higher price than they might under a single price; the policy benefits customers overall only if the extra films watched outweigh the surplus taken from evening viewers, which the extract does not show (1).

(4 + 4 + 1 = 9 points, so 8 marks, the maximum.)

Example 4

"Dominant firms often set low prices when new rivals appear. Governments should ban such pricing policies."

Evaluate this view. [20]

Model answer (outline of each paragraph):

- Definitions.** A dominant firm (large market share, price-making power). Limit pricing (a price at or below an entrant's minimum AC but above the incumbent's own AC, to deter entry). Predatory pricing (a price below the incumbent's own cost, to drive out existing rivals). (AO1.)
- Analysis with a diagram.** A monopoly diagram: the profit-maximising output and price at $MC = MR$; a horizontal line for the entrant's minimum AC below that price; the limit price on it, with higher output and lower profit. Explain why an entrant cannot cover its costs at that price. (AO2: *diagram used in the text.*)
- For a ban.** Predatory pricing removes rivals and is followed by higher prices, less choice and supernormal profit; it is X-inefficient once competition has gone. Limit pricing keeps barriers to entry high, so the firm keeps market power and may raise prices later and innovate less. (AO2: *developed chains.*)
- Against a ban.** While it lasts, limit pricing gives consumers a lower price and more output than profit maximisation; the low price may simply reflect lower costs from economies of scale, and a ban would force the efficient firm to charge more. (AO2/AO3.)

5. **Problems with a ban.** It is hard to tell predatory pricing from normal competition: a price cut may be a fair response to a rival. Regulators need cost data the firm controls; a ban may discourage all price cuts and so harm consumers. (AO3.)
6. **It depends.** On whether the price is below the firm's own cost (predatory) or above it (limit); on whether the market is contestable anyway; on how long the low price lasts and whether prices rise afterwards. (AO3.)
7. **Conclusion.** Predatory pricing should be banned, as most competition laws already do, because its aim is to remove competition and then raise prices. Limit pricing should not be banned outright, since consumers gain from the low price while it lasts; a regulator should instead watch for later price rises. So the view is right for one policy and wrong for the other. (*Justified conclusion.*)

(Table A Level 3: 14; Table B Level 2: 6; **20/20.**)

Common mistakes

- **Mixing up MR, total revenue and profit on a diagram.** In March 2025 (9708/32/F/M/25 Q4) fewer than one in five chose the right area for the rise in total revenue from moving to $MR = 0$. Over three-quarters included the area between MR and MC, which is part of the extra cost (on its own it is the fall in profit). TR is the area under MR.
- **Reading the price off MR.** The price for any objective is on the **AR** curve above the chosen output.
- **Confusing sales maximisation with revenue maximisation.** Revenue maximisation is $MR = 0$; sales maximisation is $AR = AC$ (the most output with normal profit). Learn both names for each: "sales revenue" and "sales volume".
- **Thinking price discrimination just means high prices.** In June 2023 (Paper 41 and 43 Question 3) weaker answers did this and left out the conditions; better ones gave real examples and a third-degree model.
- **Looking at only one side.** In November 2021 (Paper 42 Question 4(b)) some answers discussed only consumers or only producers, and some only explained price discrimination; the question asked who gains more.
- **Not linking the parts of the question.** In November 2022 (Paper 42 Question 3(b)) many answers covered price discrimination or market structures, but not how market structure decides whether the conditions can be met.
- **Ignoring "extent" and "always".** In November 2022 (Paper 41 Question 3(a)) the better answers questioned whether monopolies always want maximum profit, bringing in sales or revenue maximisation and market share; the report pointed to a monopoly diagram showing the limit price.
- **Treating limit pricing as all good or all bad.** In November 2022 (Paper 43 Question 3(b)) the best answers compared the short-run gain of a lower price with the long-run risk, and asked whether economies of scale or dynamic efficiency could keep prices low.
- **Mixing up limit and predatory pricing.** Limit pricing keeps out firms that have not yet entered and still makes a profit; predatory pricing makes a loss to remove firms already there.
- **Getting the kinked demand curve backwards.** Rivals ignore a price **rise** and copy a price **cut**, not the other way round.

How to get the marks

- **Multiple choice:** mark $MC = MR$, $MR = 0$, $AR = AC$ and $AR = MC$ on the diagram before reading the options; read prices off AR .
- **Definitions** earn the first marks: each objective with its condition, price discrimination (same product, different prices, not because of cost), each degree, limit, predatory and price leadership.
- **"Explain"** (2–6 marks): a point, then a chain: the objective or policy → what happens to output and price → the result for profit, consumers or rivals.
- **"Distinguish between":** define both and state the difference directly, using words such as "whereas"; two separate definitions with no comparison lose the last mark.
- **"Consider", "assess" or "discuss"** (6–8 marks): both sides, each usually capped at 4 marks, and a conclusion that follows from them. Use the extract's evidence when the question says "use the article".
- **Diagrams:** label the axes (price, cost and revenue; output or quantity), and AR , MR , MC and AC ; MC must cut AC at its lowest point; mark the output and price for each objective; for price discrimination, show each market with its own $MR = MC$. Refer to the diagram in your writing.
- **20-mark essays:** Table A (14) rewards accurate definitions, a relevant labelled diagram and developed analysis; Table B (6) rewards questioning the key words ("always", "at the expense of", "should be banned") and a justified conclusion that answers the question.
- **25-mark essays (2021–2022)** had a 12-mark explanation part and a 13-mark discussion part; the top level of the discussion part needed both sides and a conclusion.

Quick check

1. At a firm's current price, PED is -0.6 . What should it do to raise its total revenue? **A** cut its price **B** raise its price **C** keep its price the same **D** increase output
2. A shop cuts the price of a lamp from \$12 to \$10 and sales rise from 50 to 65 a week. Calculate the change in total revenue and the PED .
3. A monopoly faces demand $P = 90 - 3Q$ and has a constant MC of \$30. Find its output and price if it maximises profit, and if it maximises revenue, and the total revenue in each case.
4. Explain why the managers of a large public company may choose sales maximisation rather than profit maximisation. **[4]**
5. A national supermarket chain cuts its petrol price below its own cost at its station in one town just after an independent station opens there. When the independent station closes, the supermarket raises its price. Which pricing policy is this, and why is it not limit pricing? **[2]**

Answers

1. **B** (1). Demand is inelastic, so a rise in price reduces quantity by a smaller percentage and TR rises.
2. TR rises from $12 \times 50 = 600$ to $10 \times 65 = 650$ dollars, up \$50. $PED = \frac{+30\%}{-16.7\%} = -1.8$, elastic, which is why the price cut raised TR.
3. **Profit:** $MR = 90 - 6Q = 30$, so $Q = 10$, $P = 60$ dollars, TR \$600. **Revenue:** $MR = 0$ at $Q = 15$, $P = 45$ dollars, TR \$675. Revenue maximisation gives more output at a lower price.
4. Shareholders own the company but salaried managers control it (1); managers' pay, status and job security often grow with the size of the firm rather than its profit (1), so they choose the largest output that keeps profit at a level shareholders will accept, increasing market share (1); shareholders can't easily check what managers do, so this principal-agent problem lets them get away with it (1).
5. **Predatory pricing** (1): the price is below the supermarket's own cost, so it makes a loss, and its aim is to drive out a rival already in the market before raising the price; limit pricing is a profitable price set to stop firms entering (1).

Past questions to try

- 9708/31/O/N/25 Q7: reading the change in output from revenue to sales maximisation off a diagram.
- 9708/32/F/M/25 Q4: the area showing the rise in total revenue when a firm moves to $MR = 0$.
- 9708/33/O/N/23 Q7: the condition needed for third-degree price discrimination.
- 9708/42/O/N/21 Q4: part (b), a 13-mark discussion of whether consumers or producers gain more from price discrimination.