ECONOMICS

What does it mean to me?

Part V: Ch 14-17

Pgs. 289-386

- Pure Competition
- Monopoly
- Oligopoly
- Monopolistic Competition
- **Long Run/Short Run**

There are four distinct market models:

1) PURE COMPETITION

Large number of firms, standardized product, easy entry, “price takers”.

2) PURE MONOPOLY

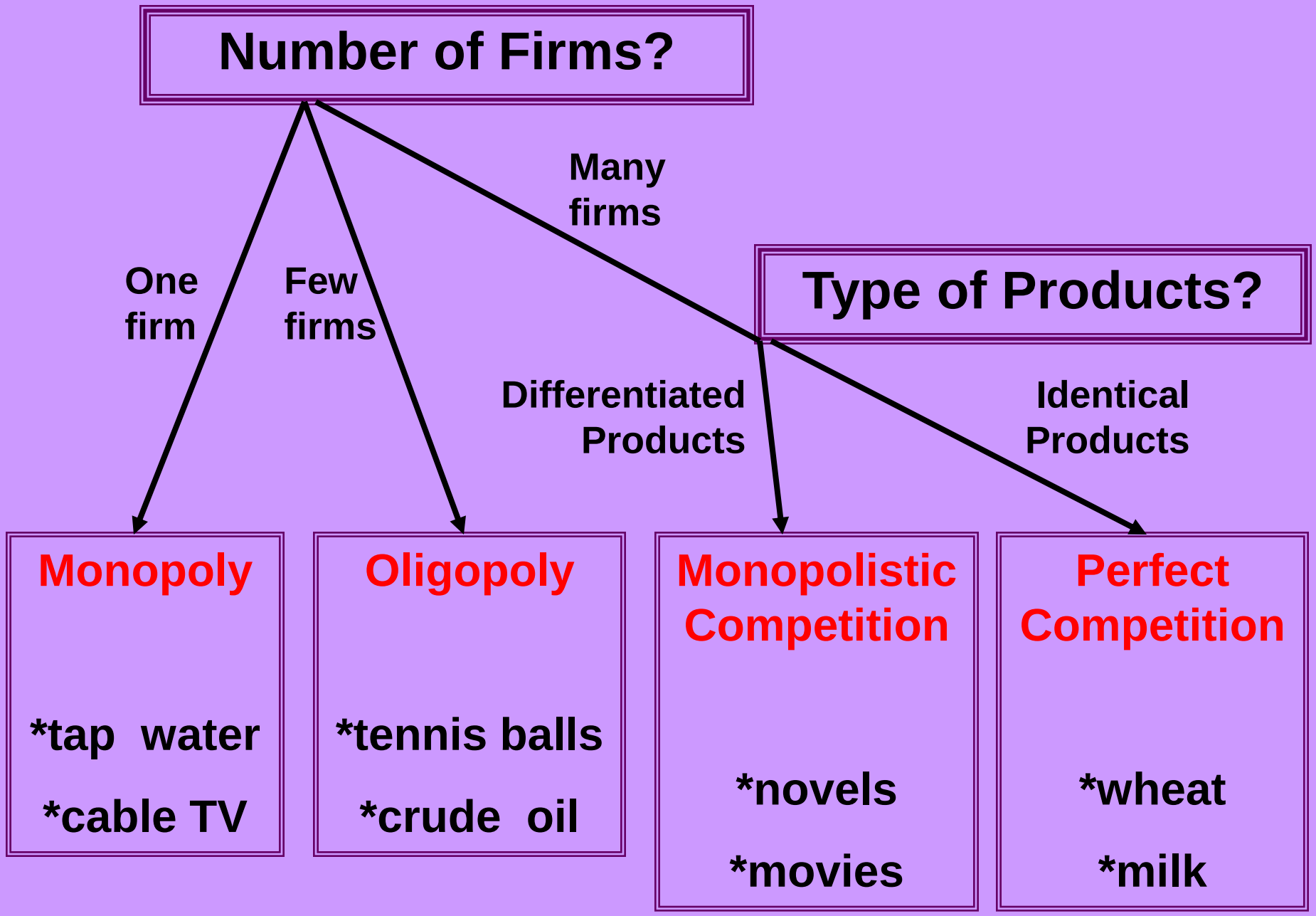
One firm--sole seller of a product, difficult entry, no effort to differentiate product

3) OLIGOPOLY

Few sellers, affected by rivals, must take decisions of others into account when determining its own strategies.

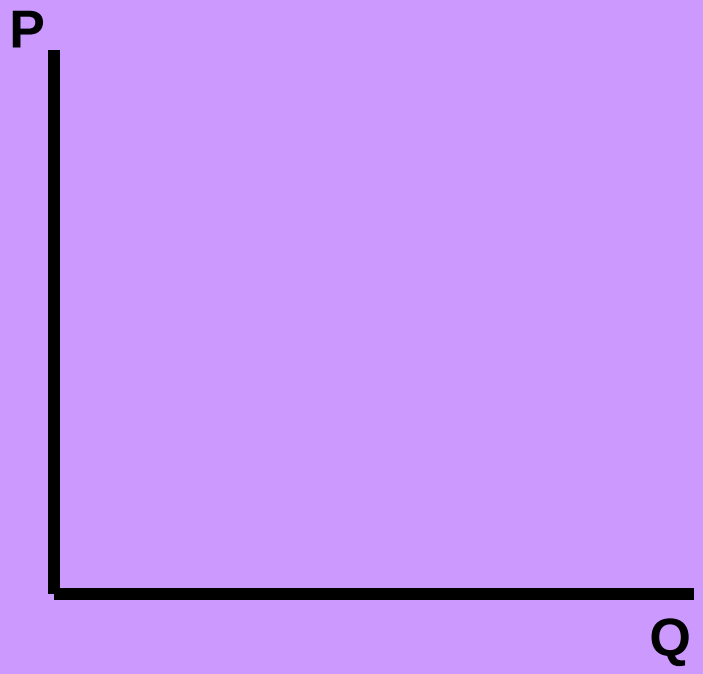
4) MONOPOLISTIC COMPETITION

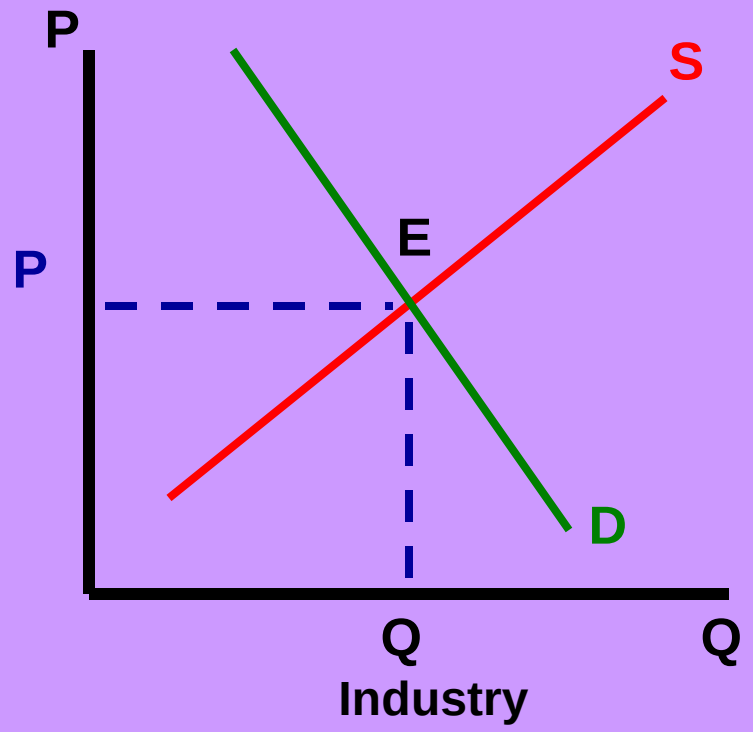
Large number of sellers, differentiated products, non-price competition, easy entry.


Number of Firms?
One firm
Few firms
Many firms
Type of Products?
Differentiated Products
Identical Products
Monopoly
*tap water
*cable TV
Oligopoly
*tennis balls
*crude oil
Monopolistic Competition
*novels
*movies
Perfect Competition
*wheat
*milk


PURE
COMPETITION

PERFECT COMPETITION



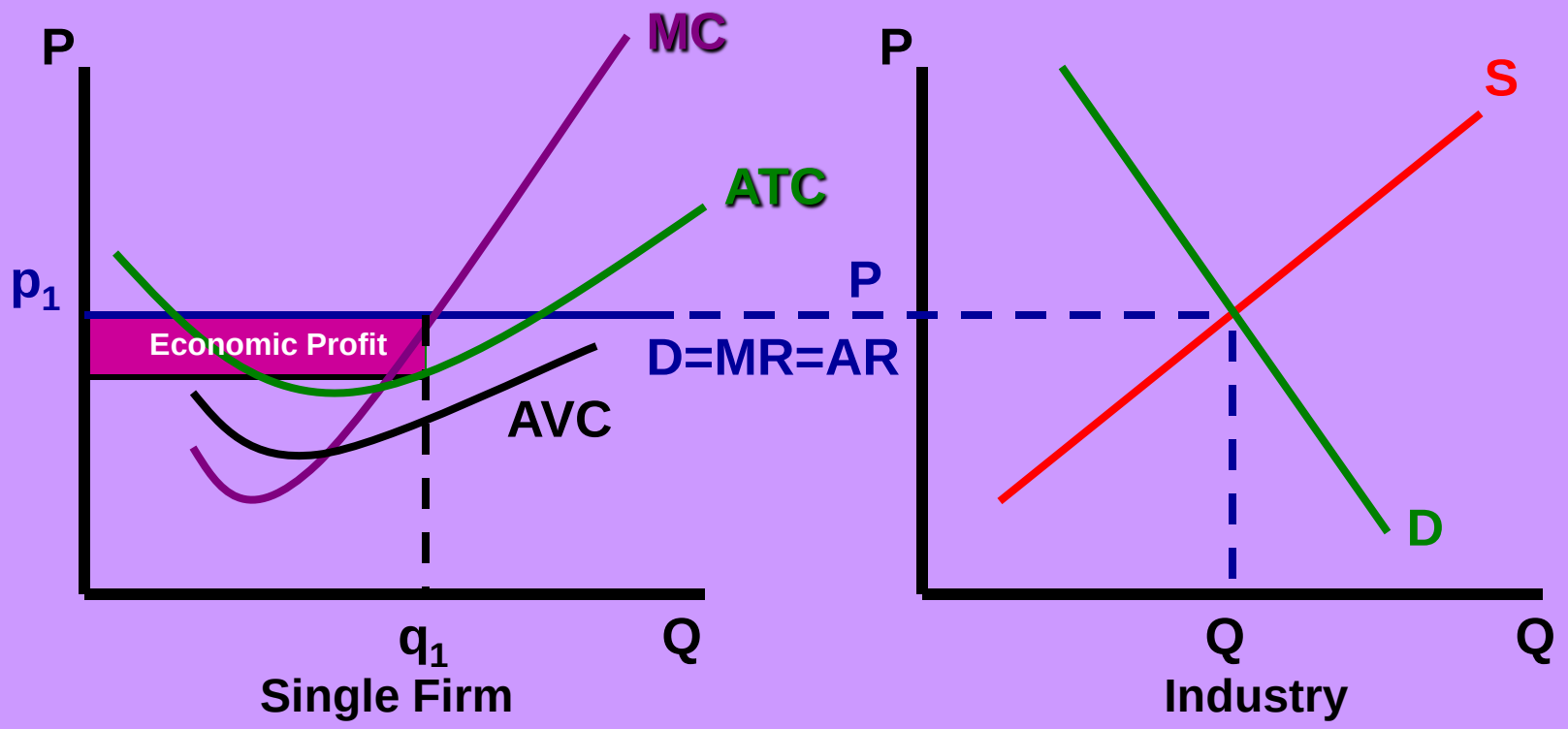


Are there any questions?
If there are, we're in trouble.

This is a basic supply and demand graph; the point at which they intersect is the point of maximum efficiency. Notice that price and quantity for the INDUSTRY are capital P and capital Q.

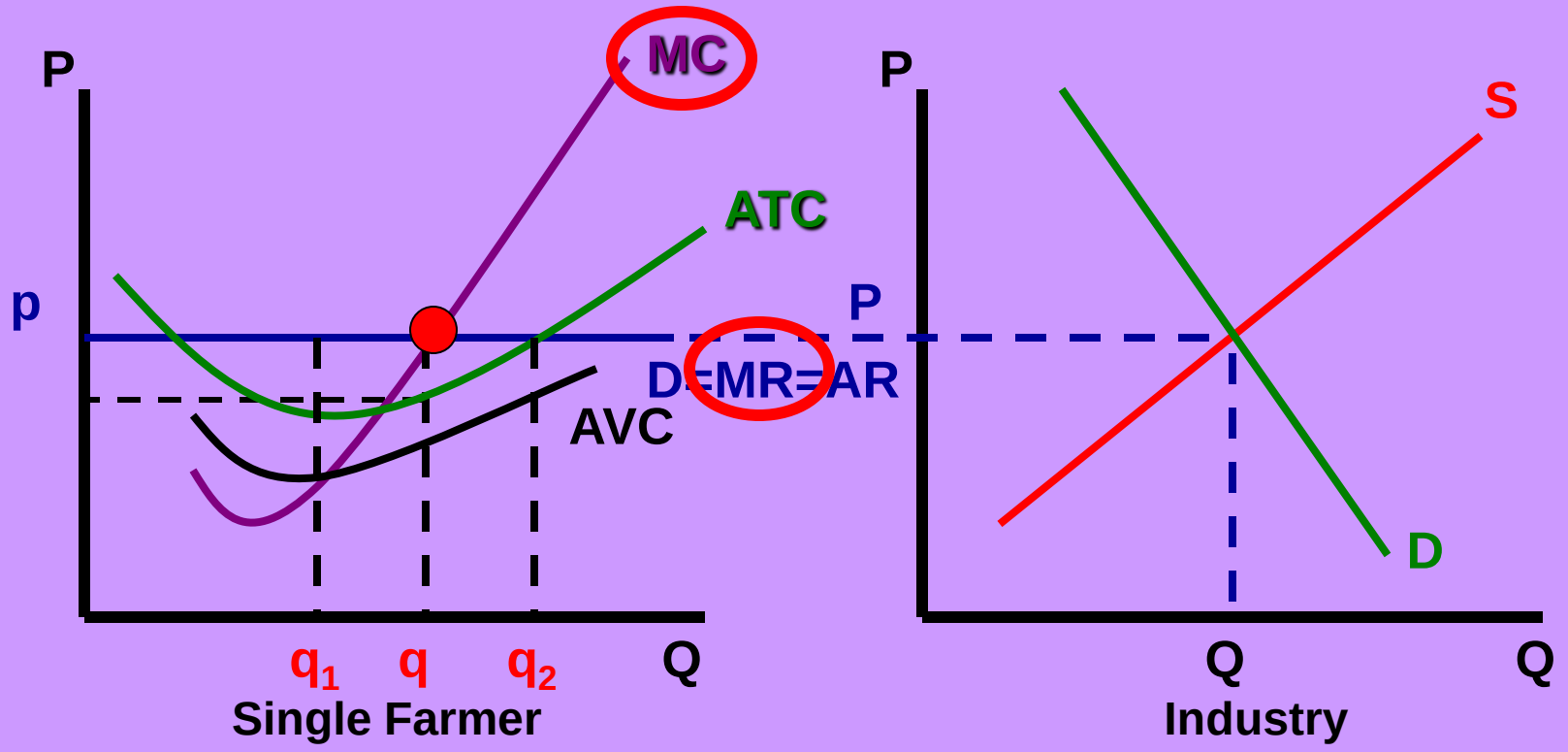
Graphing for the firm will be more challenging.

PERFECT COMPETITION



ARE THERE ANY QUESTIONS??

PERFECT COMPETITION



You are a farmer in this market. How many bushels of corn do you want to produce? Why?

a) small q_1

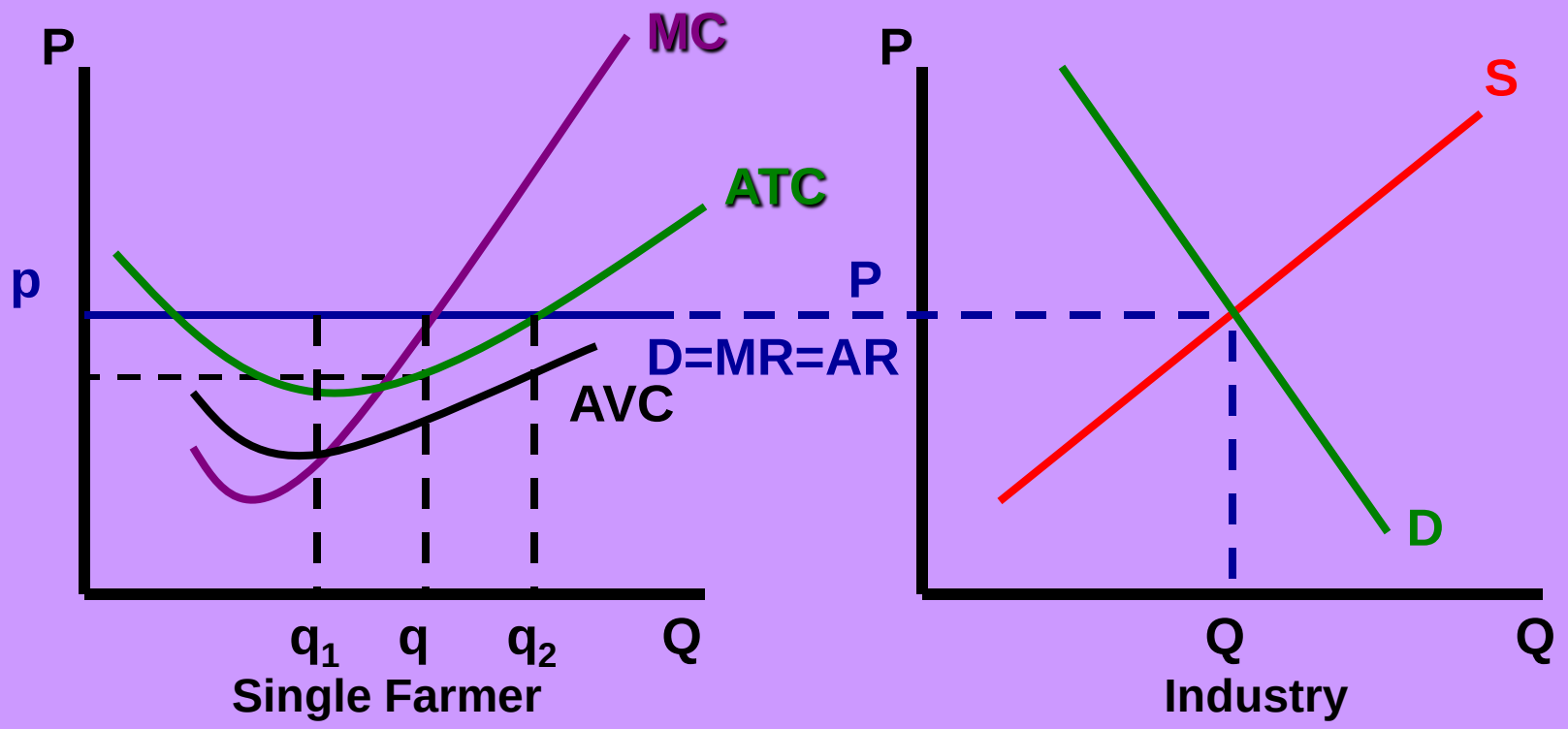
b) small q

c) small q_2

Answer: The point at which

MC=MR

PERFECT COMPETITION

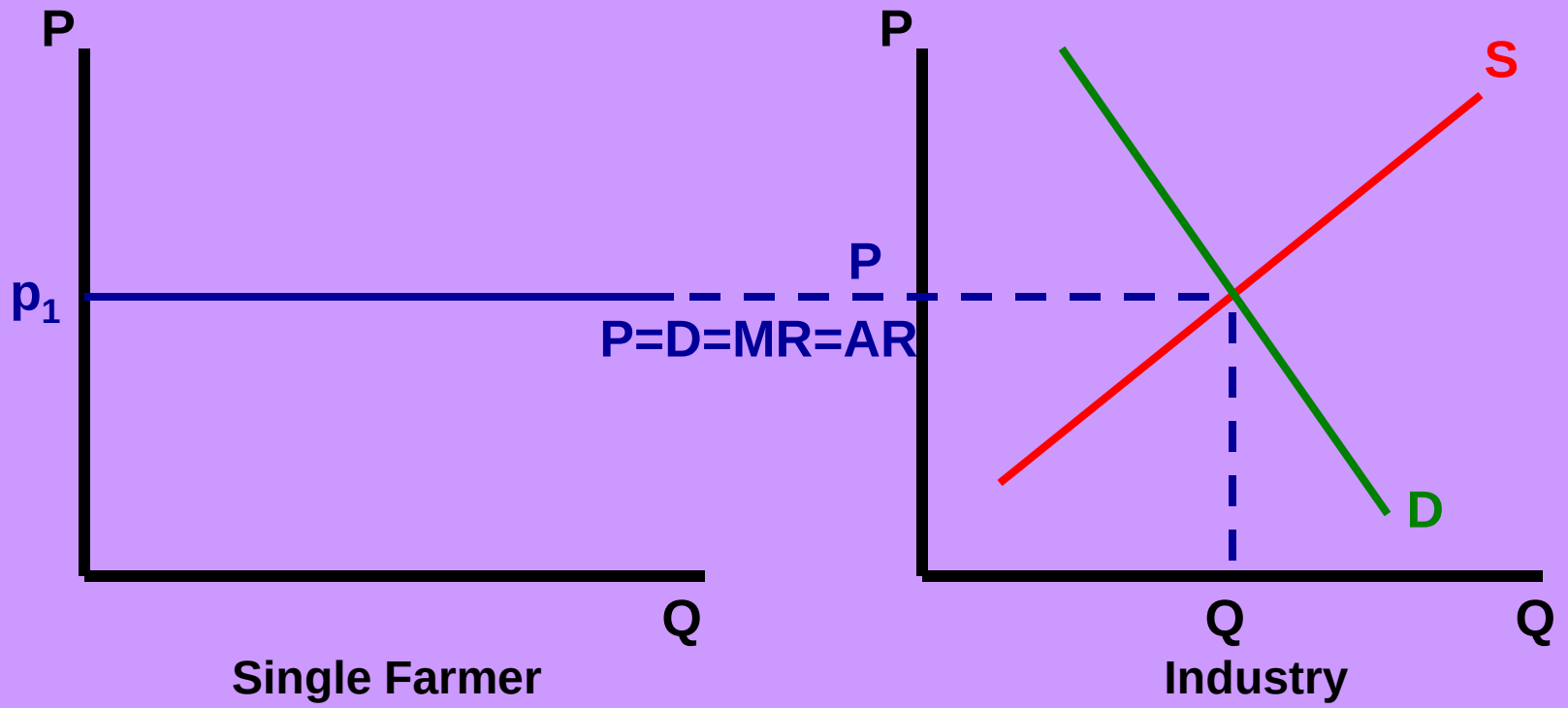


Let's look at each individual line to understand more about how firms decide production.

Individual firms are price takers and will take the market price.

Hint: memorize this line for the AP test.

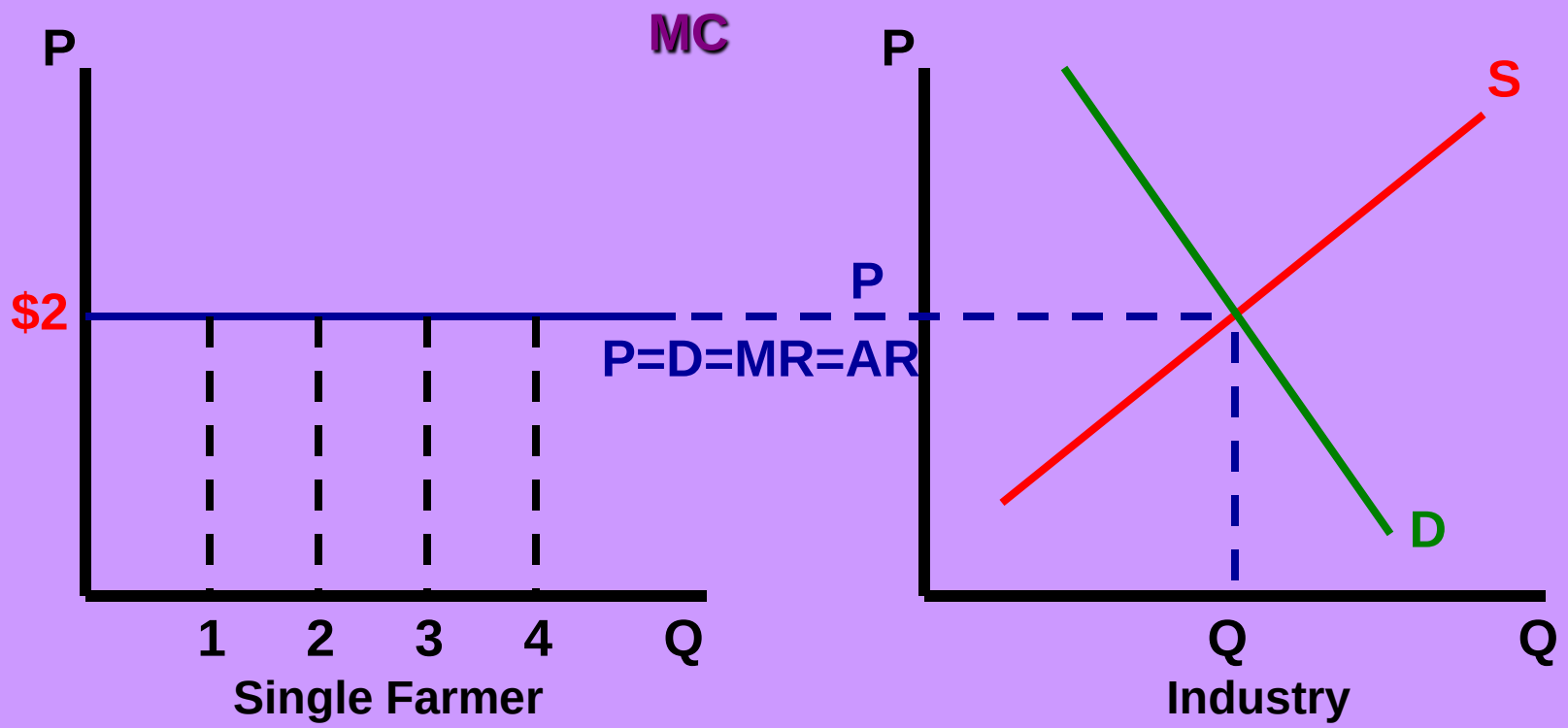
PERFECT COMPETITION



Notice that P = MR = D = AR

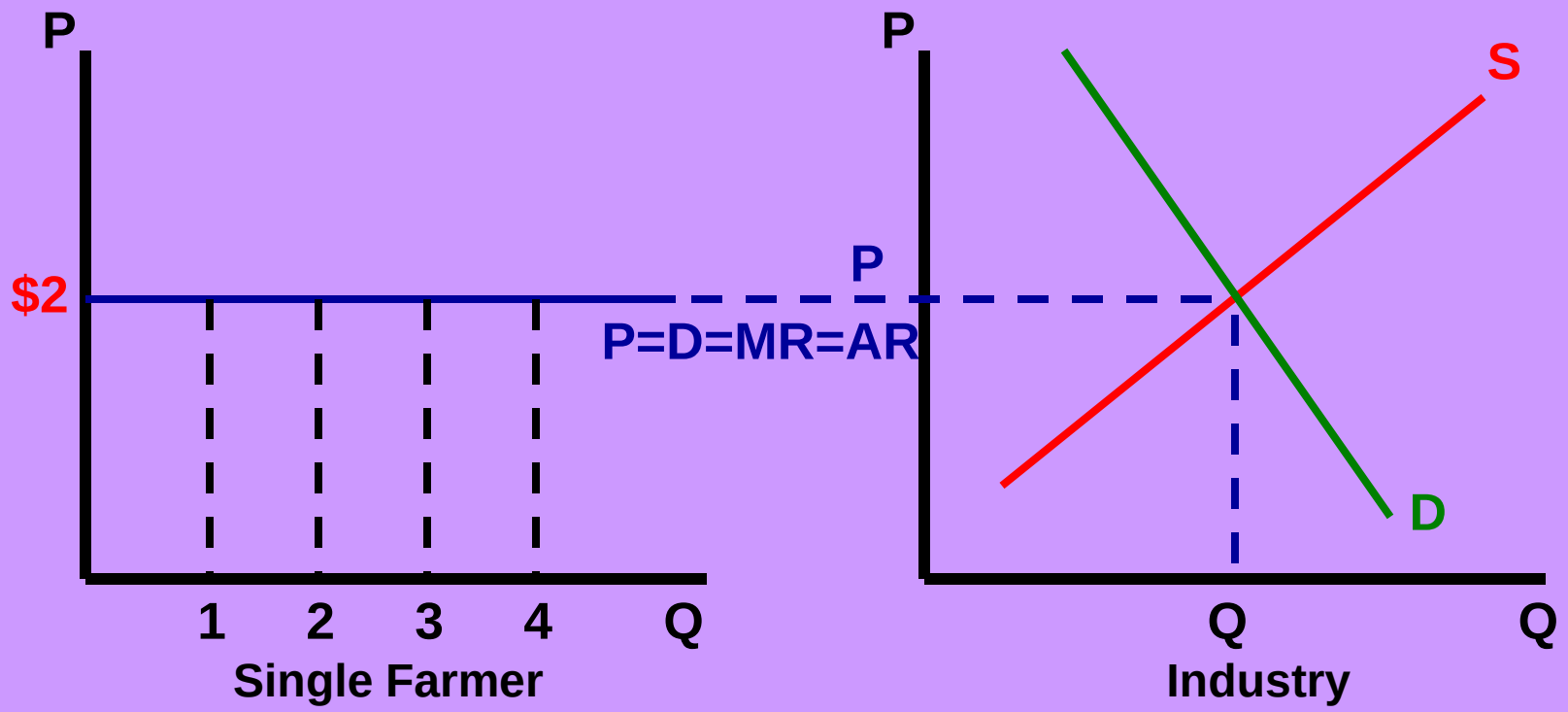
P = Price
MR = Marginal Revenue
D = Demand
AR = Average Revenue

Why are they all equal?



Since the farm is a price taker, it must take the market price.
Let's suppose that P = $2 , what is the demand P at each q?

q	P
1	$2
2	$2
3	$2
4	$2



What do you get when you multiply P x q?

TR

q	x	P	=	TR
1		$2		$2
2		$2		$4
3		$2		$6
4		$2		$8

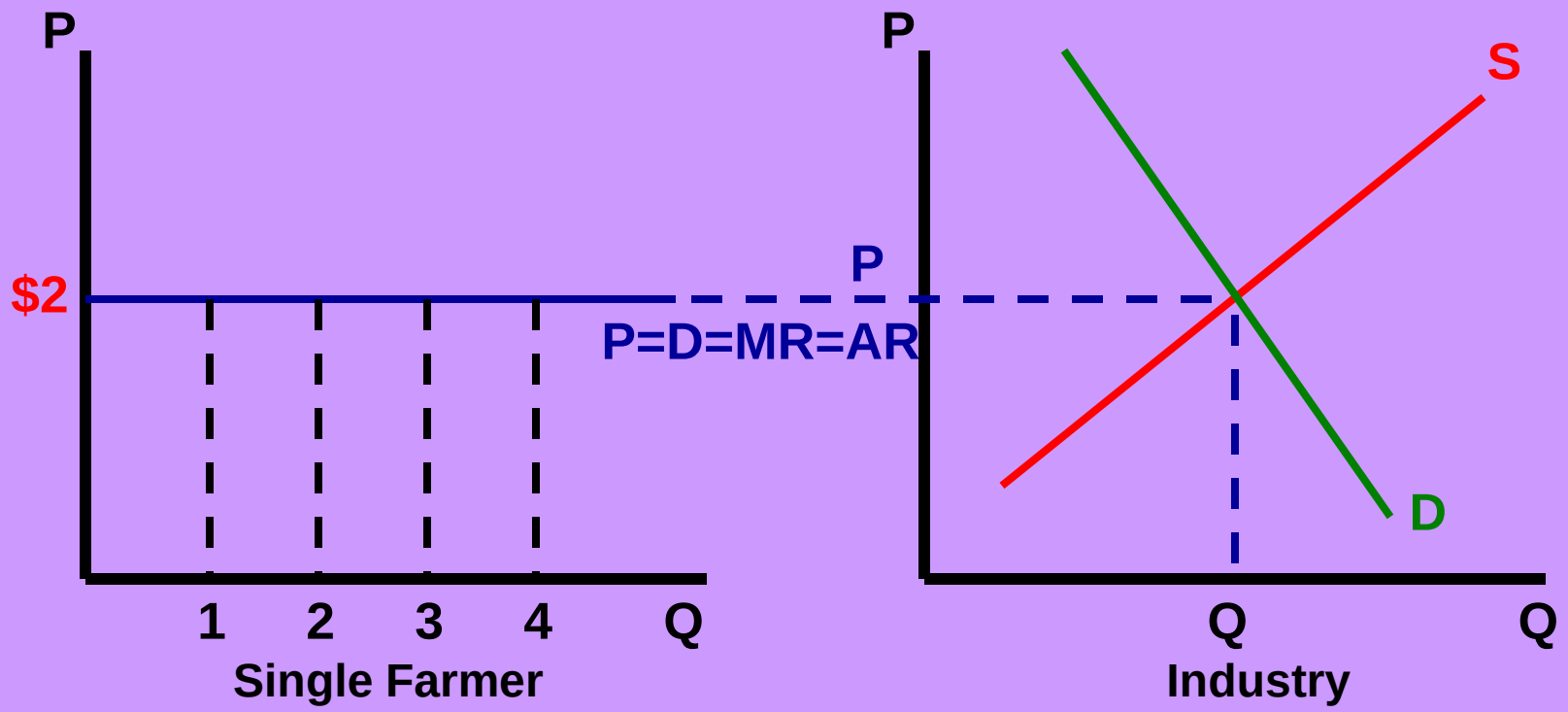
What is TR for each bushel sold?

Who do we appreciate?

THE FARMER

WHY DO WE APPRECIATE THE FARMER?

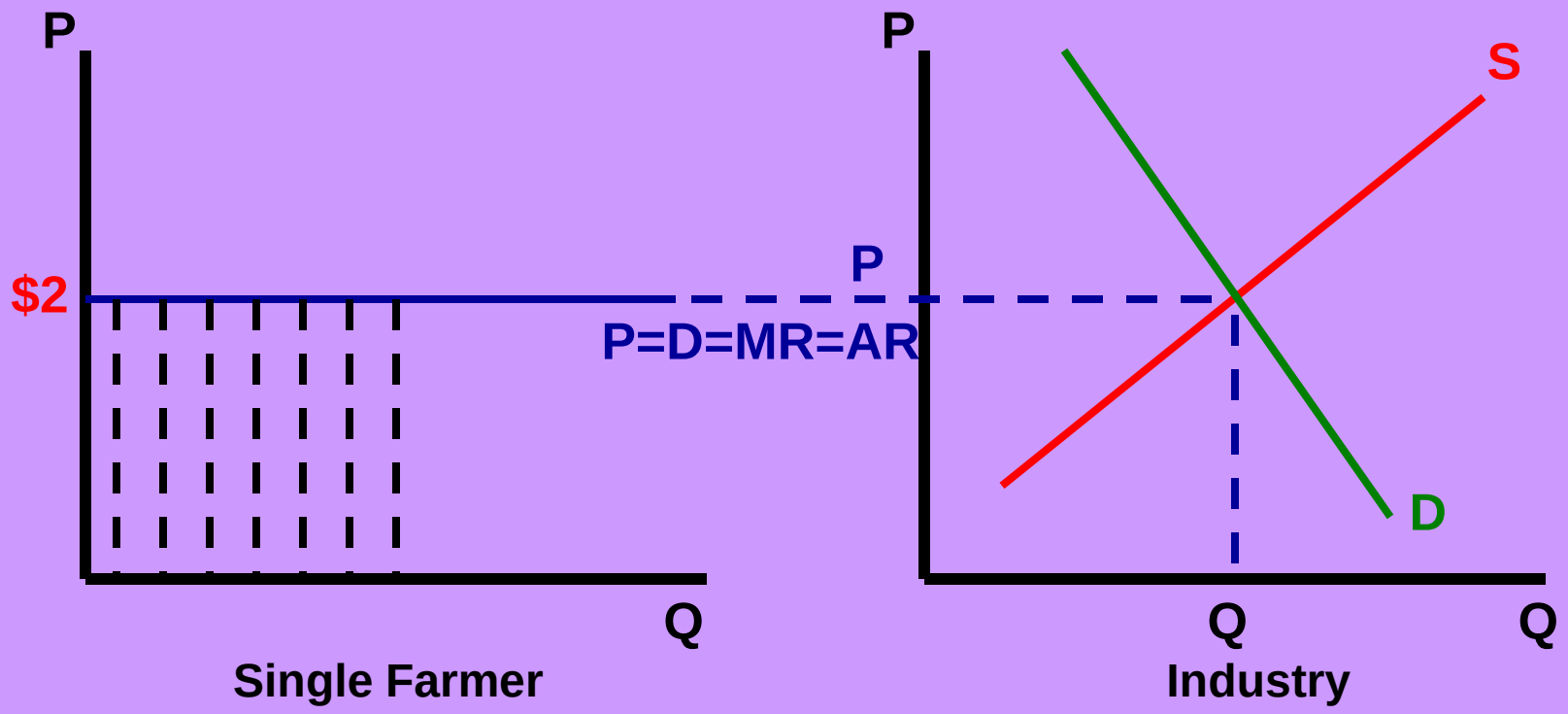
1) How many of you ate breakfast this morning?
2) How many of you plan to eat lunch?
3) How about dinner?
4) How many of you grew your own food today?



q	x	P	=	TR	MR
1		$2		$2	
2		$2		$4	]> $2
3		$2		$6	]> $2
4		$2		$8	]> $2

What is the formula for MR?

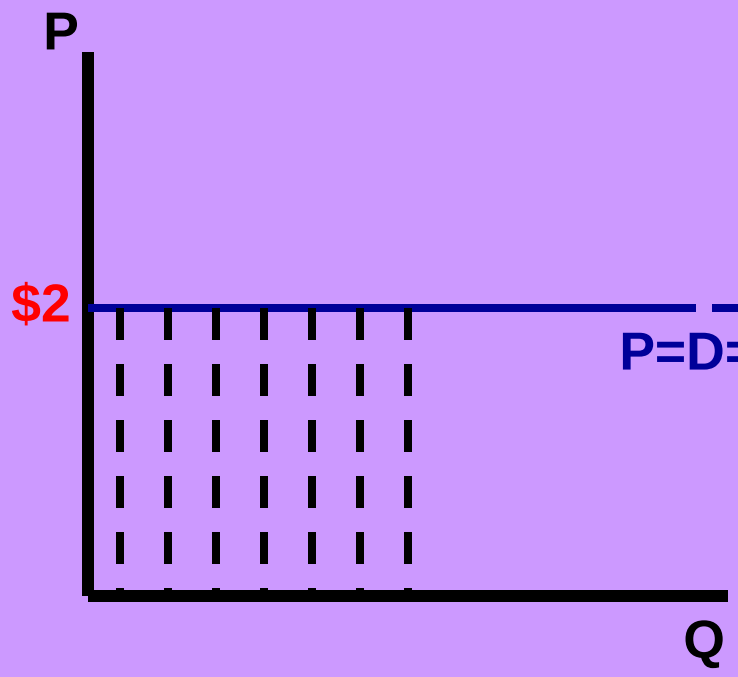
$$MR = \frac{\triangle TR}{\triangle q}$$



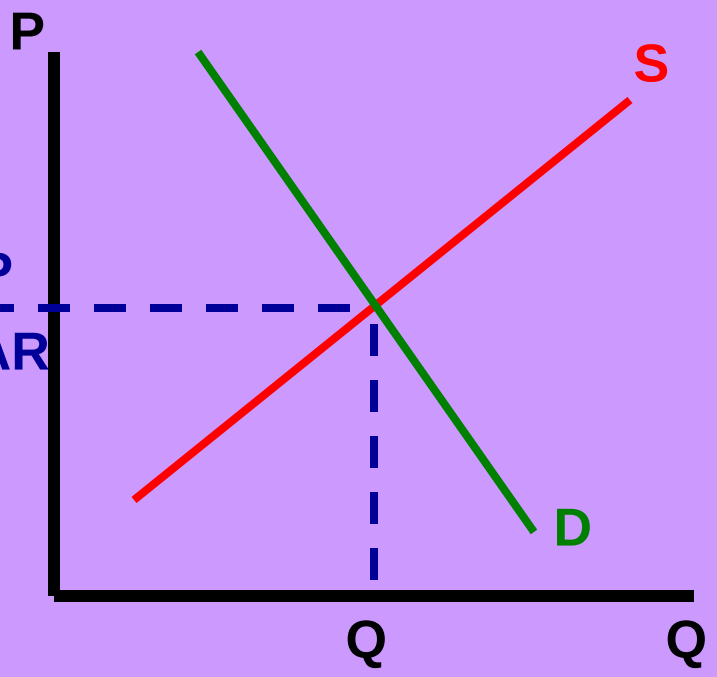
q	x	P	=	TR	MR
1		$2		$2	
					]> $2
2		$2		$4	
					]> $2
3		$2		$6	
					]> $2
4		$2		$8	

At each price of $2, demand is ELASTIC. You can buy infinate amounts of corn at $2. So…….

D = P = MR



Single Farmer



Industry

How would you figure AR?

q	x	P	=	TR	MR	AR
1		$2		$2		$2
					]> $2	
2		$2		$4		$2
					]> $2	
3		$2		$6		$2
					]> $2	
4		$2		$8		$2

AR = TR / q

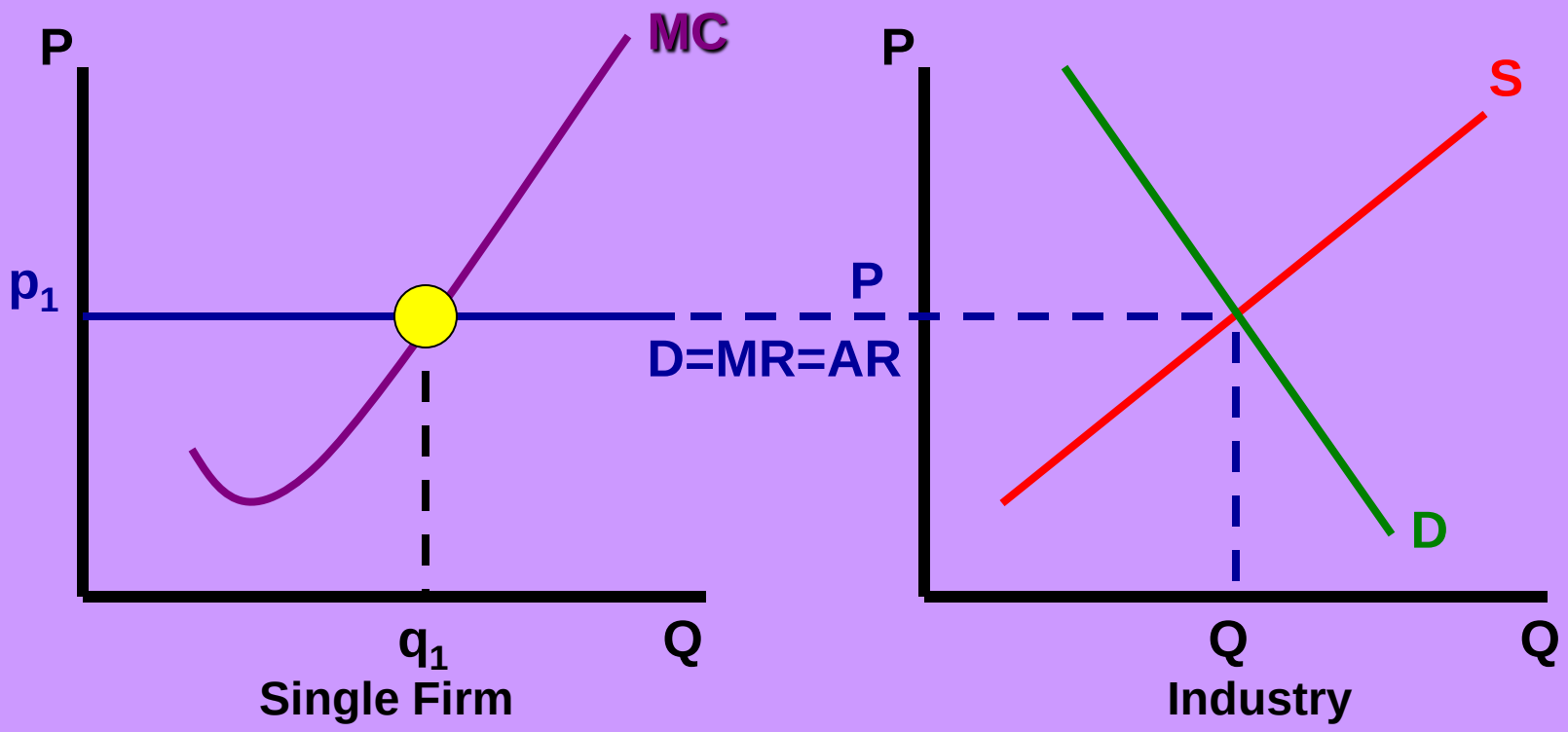
When I grew up on the farm, we lived next door to

MR. PARD

People called him that because he knew so much about perfect competition.

When labeling the demand curve for perfect competition, MAKE SURE it is labeled

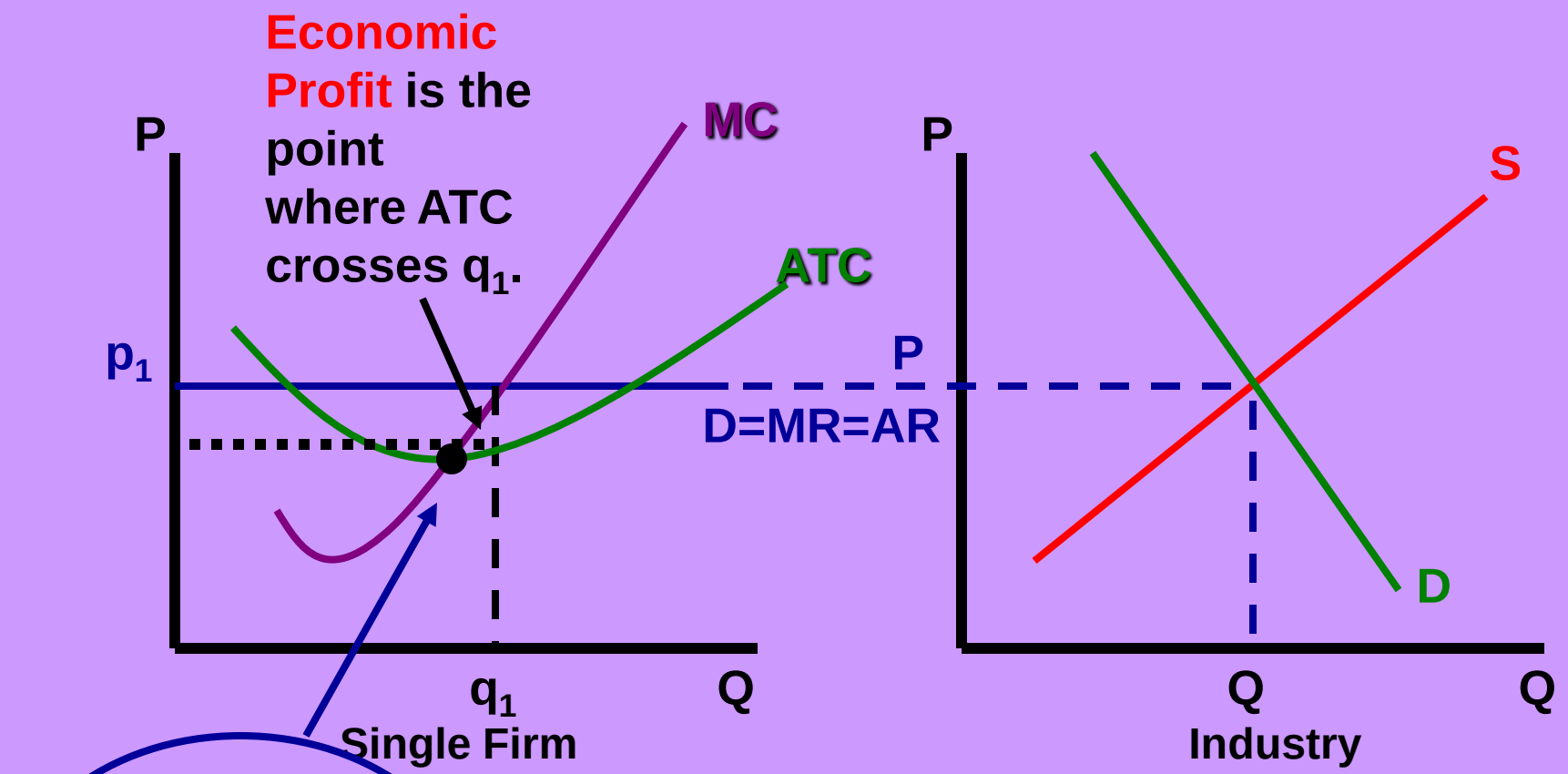
MR = P = AR = D



ALL firms maximize profits (and minimize losses) at

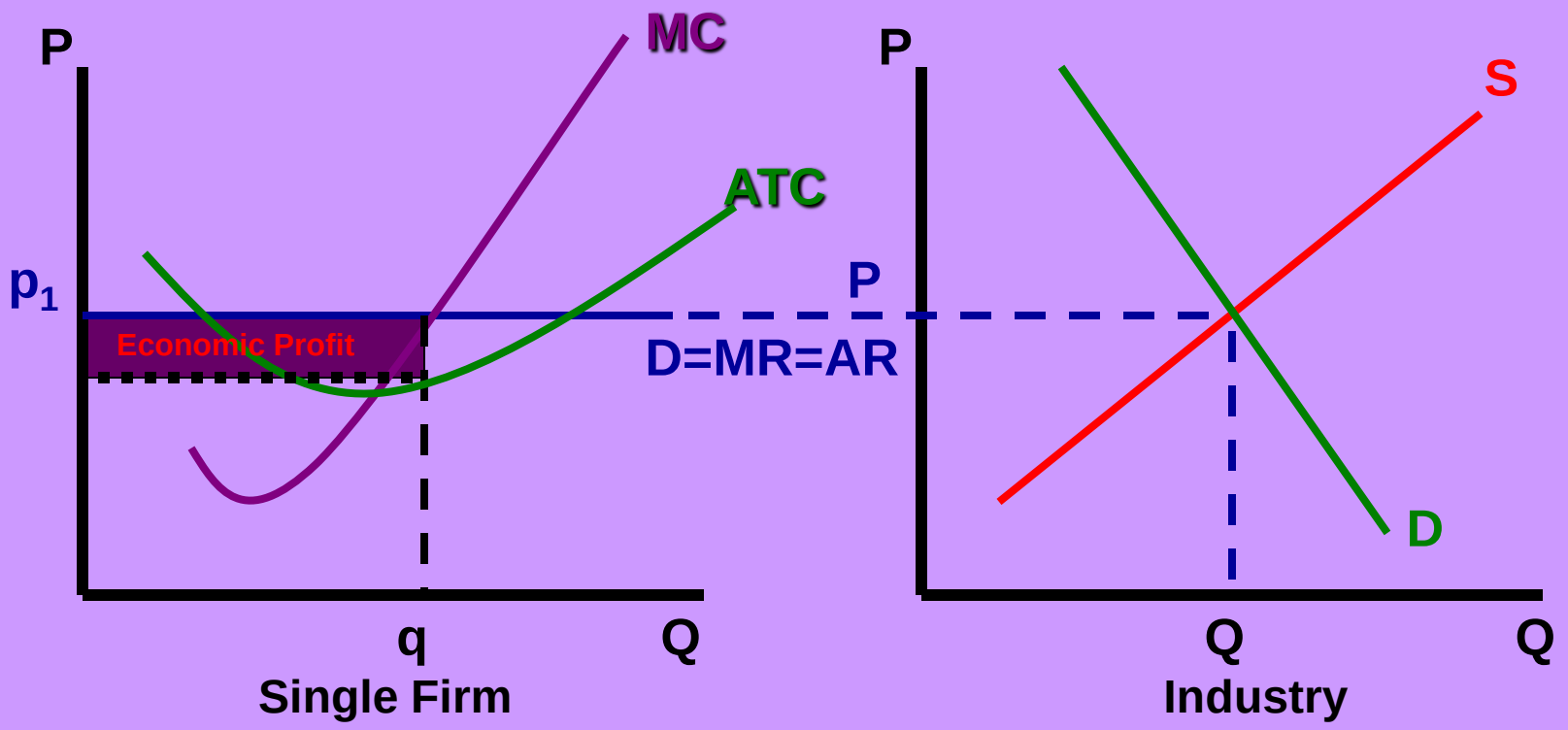
MC = MR

(Hint: tattoo this on your forehead)



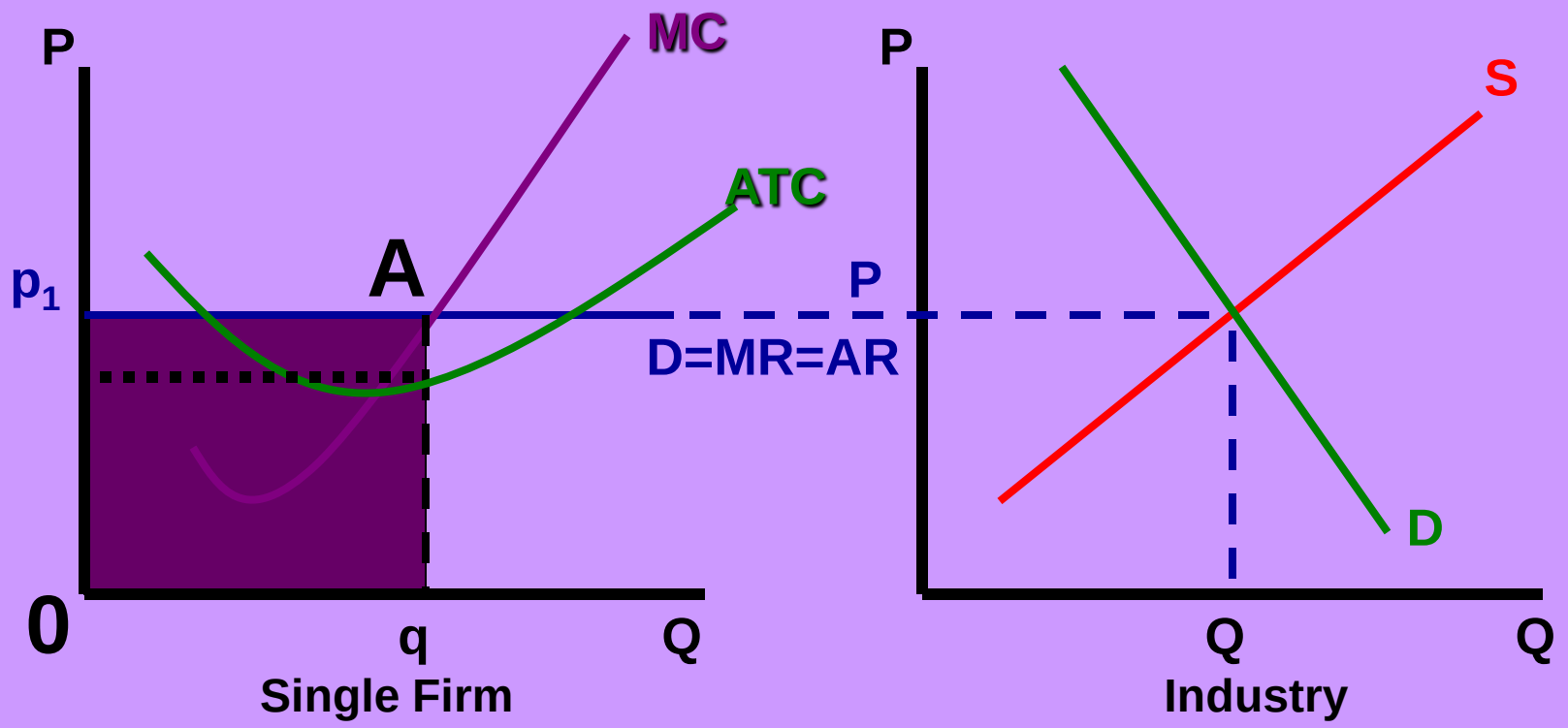
MC touches ATC at its lowest point.

Now we add ATC curve to the graph to determine if the firm is making an economic profit, economic loss or breaking even.



Whenever P is above ATC at profit-maximizing quantity (q), then the firm is earning a profit.

In this situation, P is above ATC at profit-maximizing quantity (q).

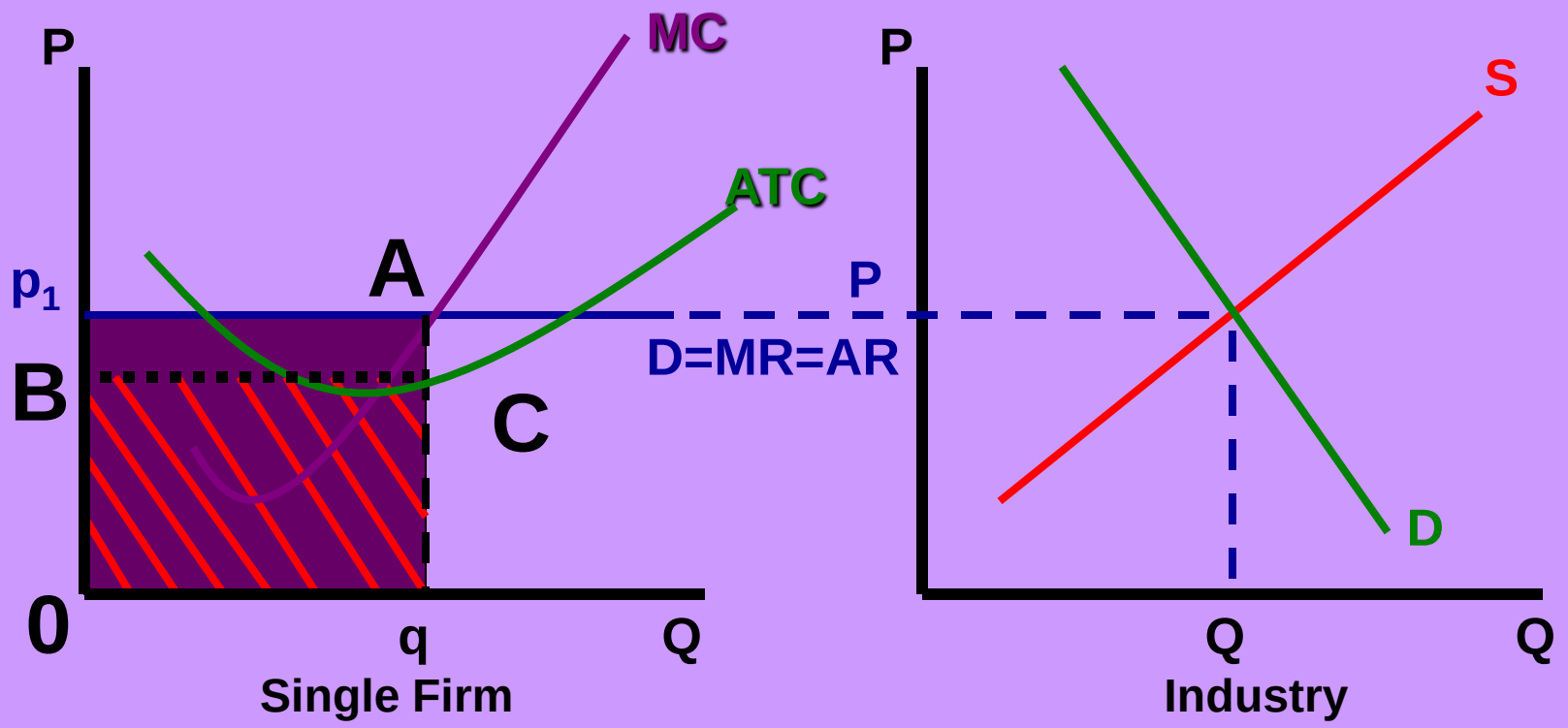


Since the P is above ATC at the profit-maximizing output q, the firm is earning an economic profit.

What is the formula for TR?

P x q

Then P x q will give you the TR = 0, p_1, A, q

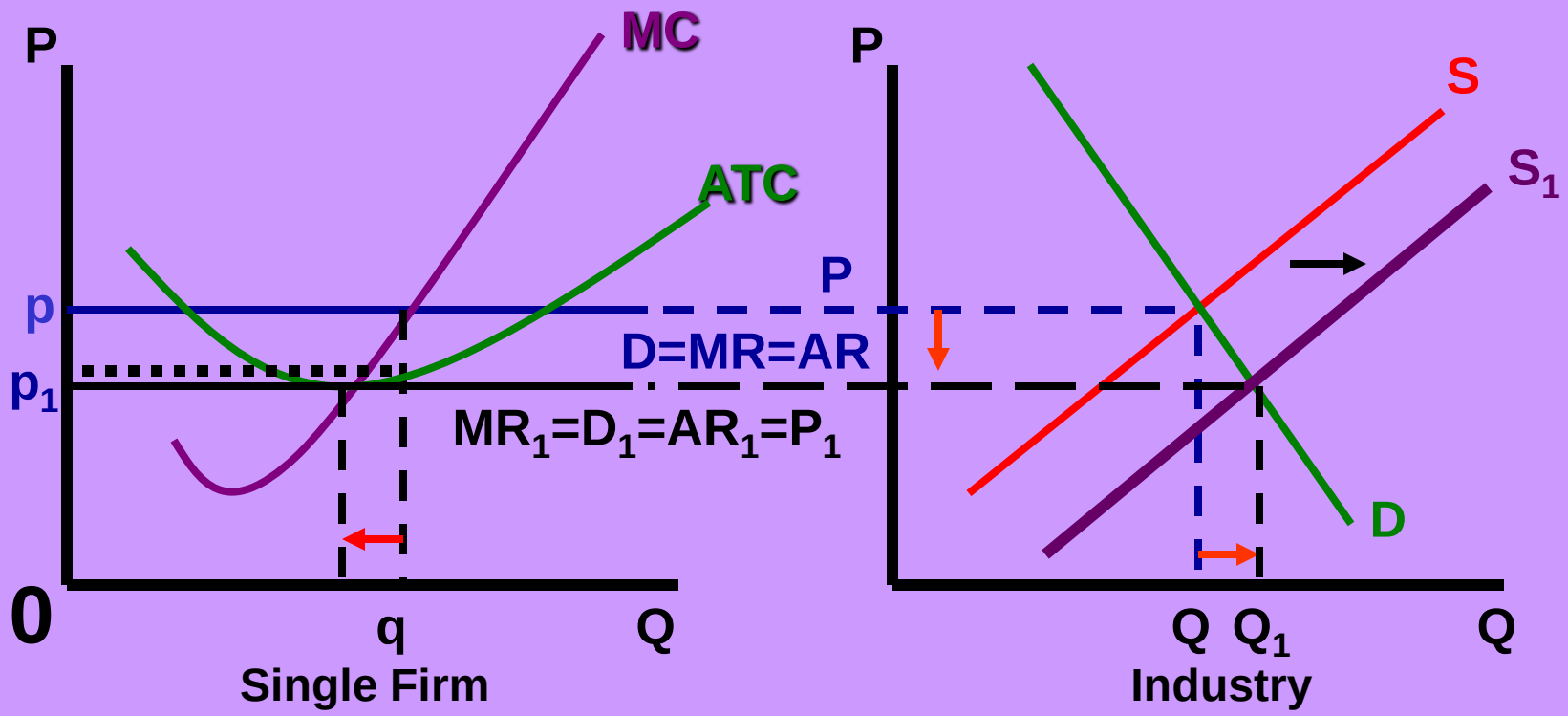


What is the formula for TC?

ATC x q

Then q x ATC will give you the TC = 0, B, C, q

Since the TR (0, p1, A, q) is larger than TC (0, B, C, q), the company is making an economic profit (B, C, A, p_1).



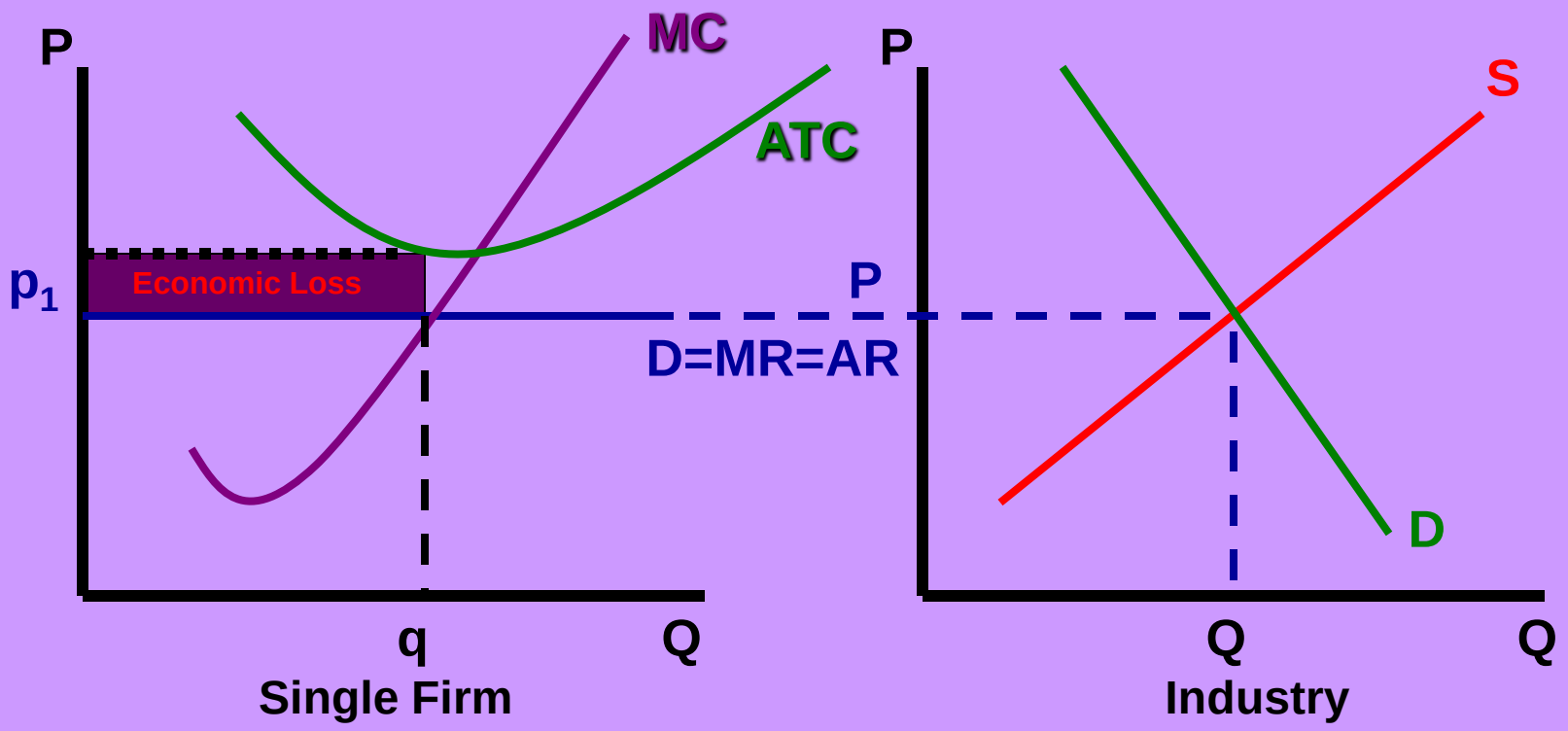
In the LONG RUN, when individuals see the firms are earning an economic profit (above normal rates of return), more firms will enter the market causing the industry market supply curve to shift to the right.

Industry P goes down

Industry Q goes up

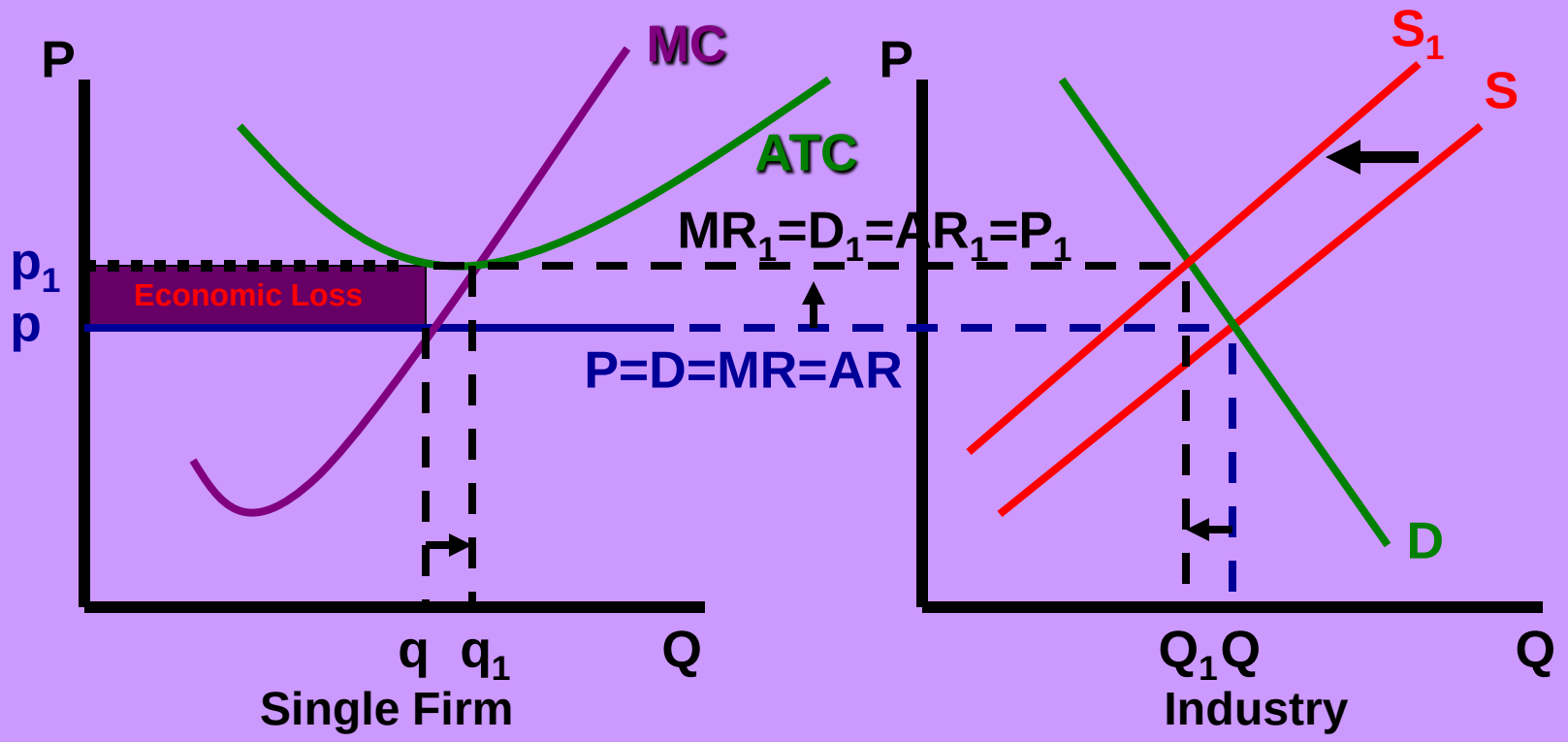
Firms' quantities go down.

ATC = MR PARD at its lowest point



How is this chart different from the previous chart reflecting an economic profit?

In this situation, P is below ATC at profit-maximizing quantity (q). This chart reflects a loss.



In the LONG RUN, when individuals see the firms are making an economic loss, firms will leave the market causing the industry market supply curve to shift down.

Industry P goes up

Industry Q goes down

Firms' quantities go up.

ATC = MR PARD at its lowest point

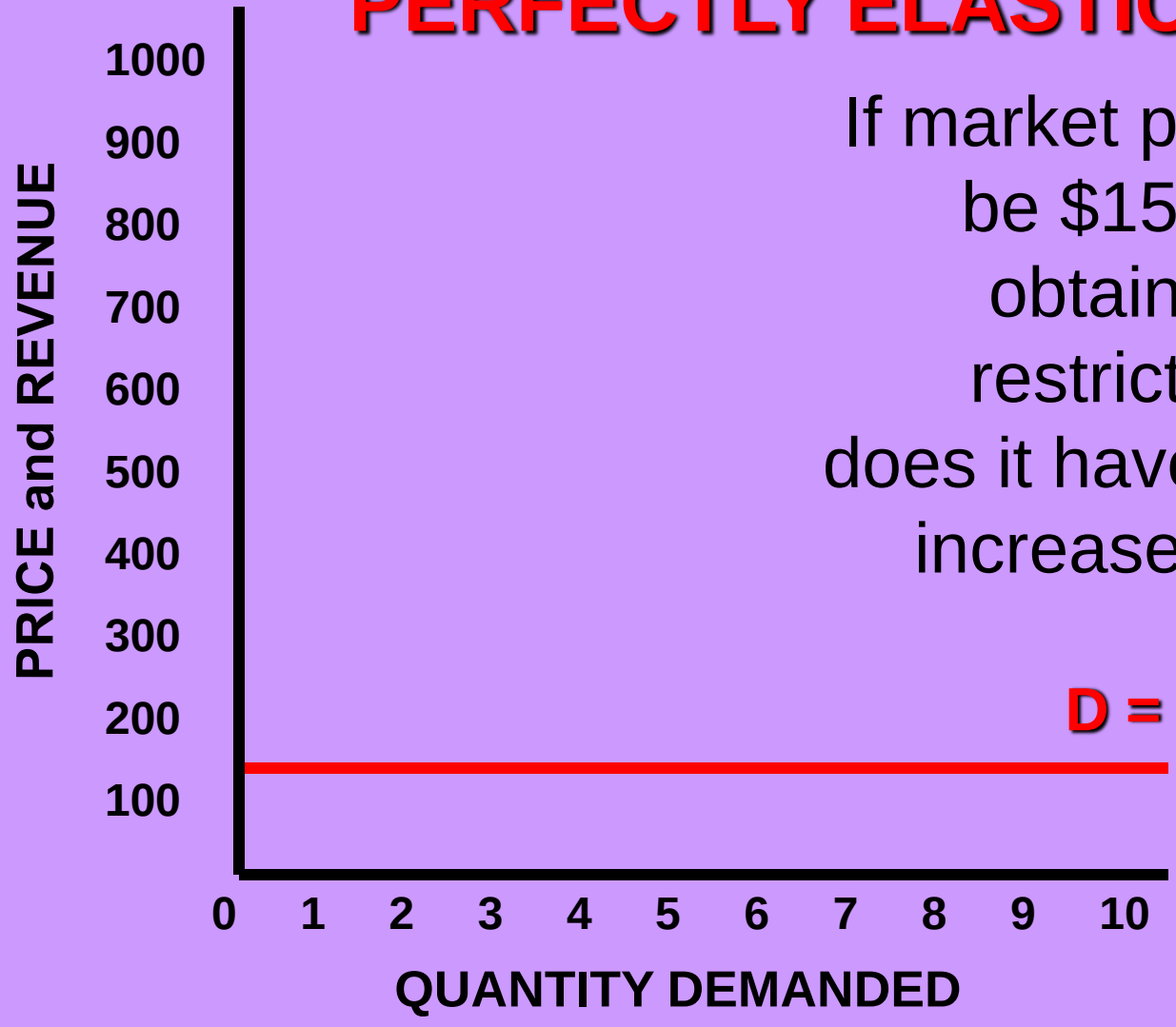
1) Very large number of sellers: examples include farm commodities, stock market, and foreign exchange markets.

2) Standardized product: if the price is the same, buyers will be indifferent about which seller they buy a “homogeneous” product from.

3) “Price Takers”: individual firms exert no significant control over price.

4) Free entry and exit: no obstacles to entry--legal, technological, financial etc.

Technically, the demand curve of the individual competitive firm is PERFECTLY ELASTIC.



If market price is believed to be $150, the firm cannot obtain a higher price by restricting its output; nor does it have to lower price to increase its sales volume.

This does NOT mean that MARKET demand is perfectly elastic. In fact, TOTAL-DEMAND curves for most agricultural products is very INELASTIC.

However, the demand schedule for the INDIVIDUAL firm in a purely competitive industry is PERFECTLY ELASTIC.

Notice that column 1 is price per unit to the buyer but it is also revenue per unit, or AVERAGE REVENUE to the seller.

(AR= TR / q)

p (AR)	q	TR	MR
150	0	0	]--150
150	1	150	]--150
150	2	300	]--150
150	3	450	]--150
150	4	600	]--150
150	5	750	]--150
150	6	900	

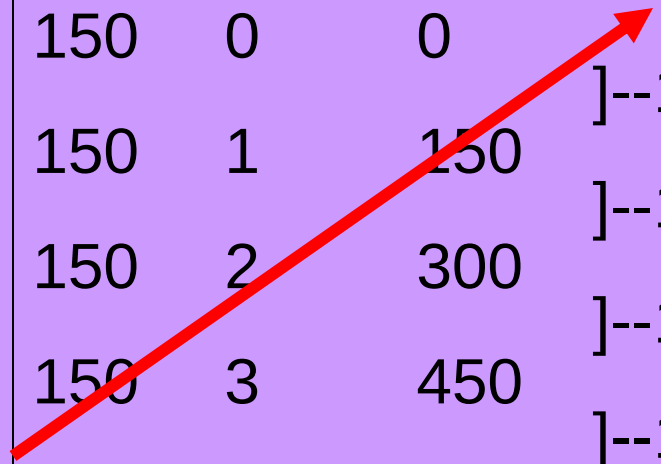
Price and Average Revenue are the same thing seen from different points of view.

TOTAL REVENUE for each sales level can be determined by multiplying Price (col. 1) by the Quantity (col. 2) to get Total Revenue in (col. 3)

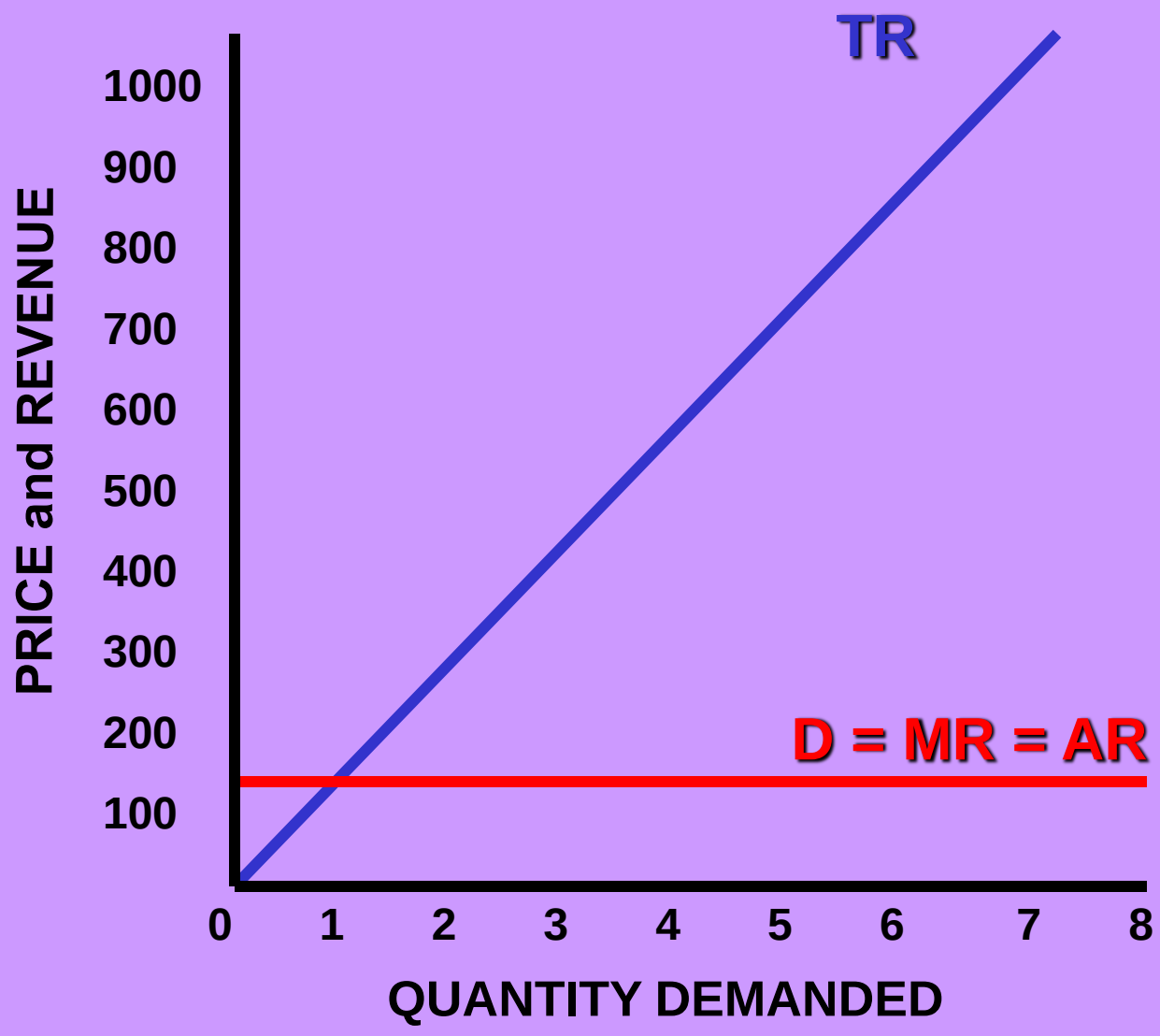
P		Q		TR	MR
				(TR=pxq)	
150	x	0	=	0	
150		1		150	
150		2		300	
150		3		450	
150		4		600	
150		5		750	
150		6		900	

MARGINAL REVENUE is the extra revenue which results from selling 1 more unit of output.

P	Q	TR (TR=pxq)	MR (MR=^TR/^q)
150	0	0	
			]--150
150	1	150	
			]--150
150	2	300	
			]--150
150	3	450	
			]--150
150	4	600	
			]--150
150	5	750	
			]--150
150	6	900	



On a graph, **D = MR = AR** and is considered perfectly elastic.



Total revenue is a constant, straight upsloping line because each extra unit of sales increases TR by the same amount.

Because the purely competitive firm is a **"price taker"**, it can maximize its economic profit ONLY by adjusting output.

The firm has a fixed plant.

Therefore, it can adjust output only through change in the amount of variable resources it uses.

The economic profit it seeks by this adjustment is the difference between ***total revenue*** and ***total cost***.

There are 2 ways to determine the level of output at which a competitive firm will realize maximum profit or loss:

1) compare TR and TC

2) compare MR and MC (we have already done this: the firm compares the amounts that each ***additional*** unit of output would add to total revenue and to total cost.)

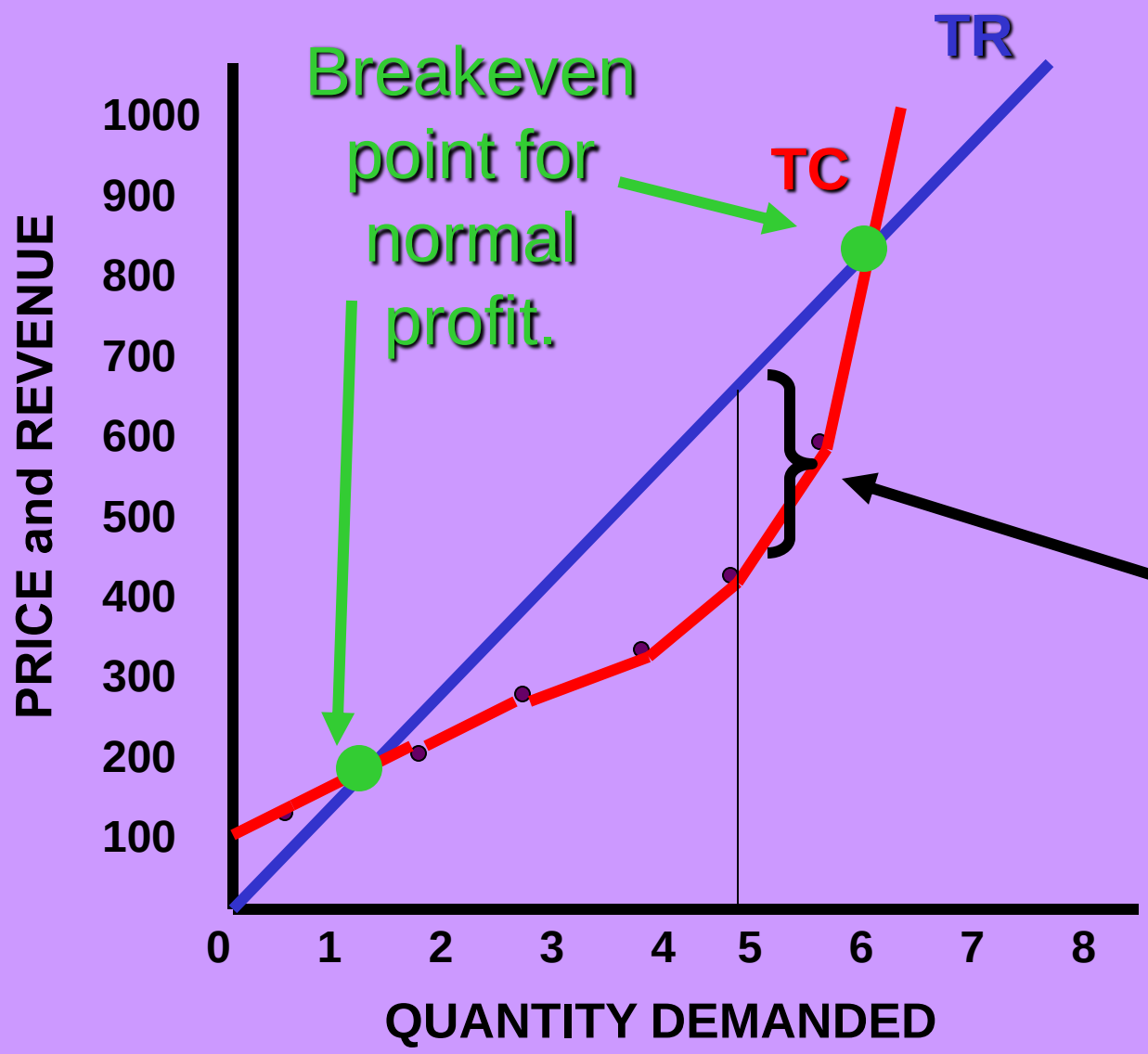
Both approaches apply to ALL four basic market structures.

TOTAL REVENUE - TOTAL COST APPROACH

Q	TFC	TVC	TC	TR	P/L
0	120	0	120	0	-120
1	120	70	190	150	-40
2	120	160	280	300	20
3	120	230	350	450	100
4	120	300	420	600	180
5	120	350	**470**	**750**	**280**
6	120	510	630	900	270

It is here that the profit begins to diminish, so profit-maximization is $280.

Plotting the TC curve into the graph allows us to see the table more clearly.



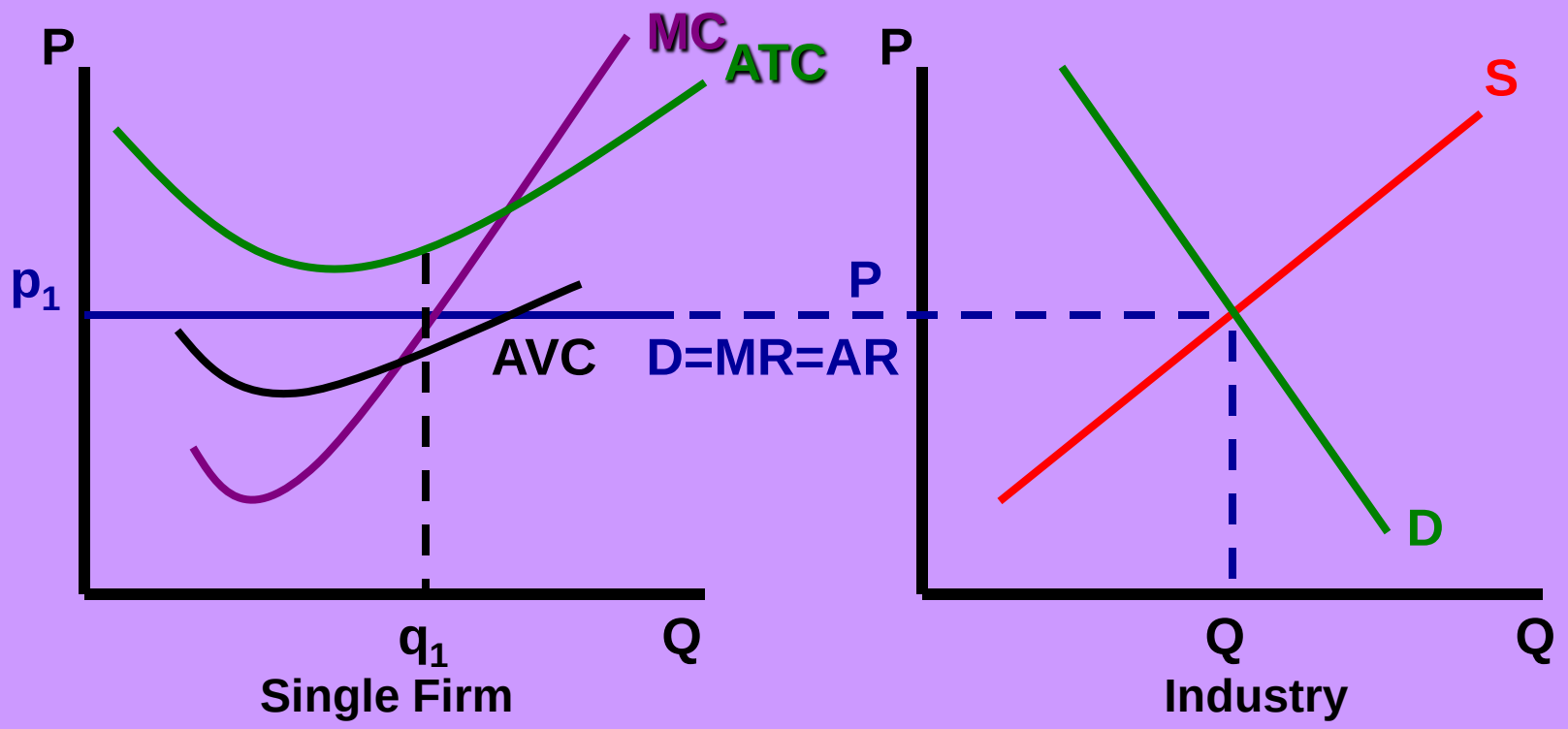
The greatest vertical distance between TR and TC is the ***maximum economic profit ($280)***, where **Q=5.**

To do Activity 31 through 36, you will NEED to know:

1) **MC = MR**
2) **MR PARD**
3) **AFC = FC / output**
4) **ATC = TC / output**
5) **AVC = VC / output**
6) **Profit = TR - TC**
7) **Economic profit**
8) **Economic loss**
9) **long run vs. short run**
10) **price taker**
11) **In LR, all firms operate at ATC (zero economic profit)**
12) **Side by side graphs**
13) **If P covers AVC and part AFC, stay in business.**
14) **If P is below ATC and AVC, shut down.**

TO SHUT-DOWN or NOT TO SHUT-DOWN

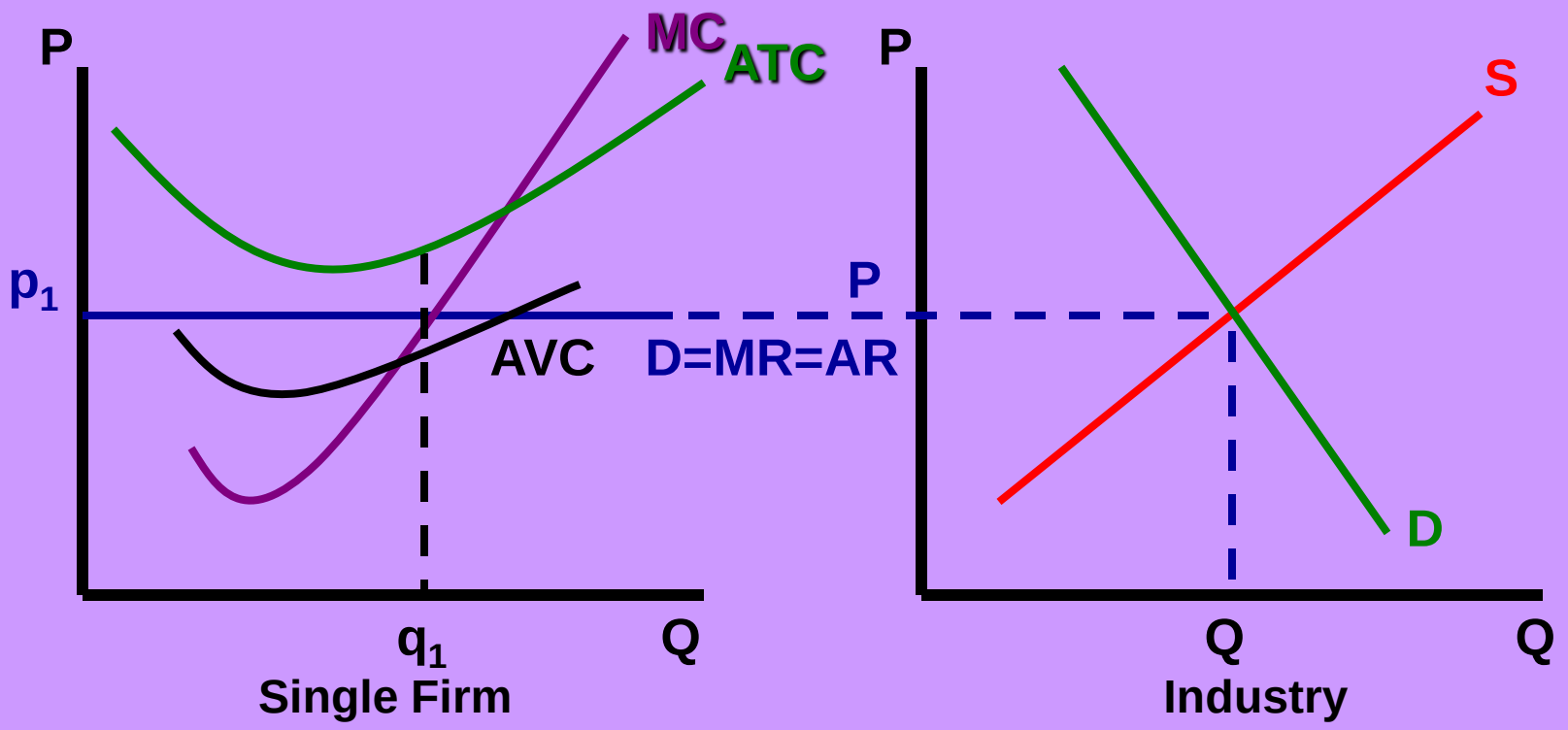
PERFECT COMPETITION



If a firm in incurring LOSSES, it must determine whether it should **SHUT DOWN** immediately or continue production in the short run.

If a firm continues losses in the long-run, it should always shut-down. But what about the short-run?

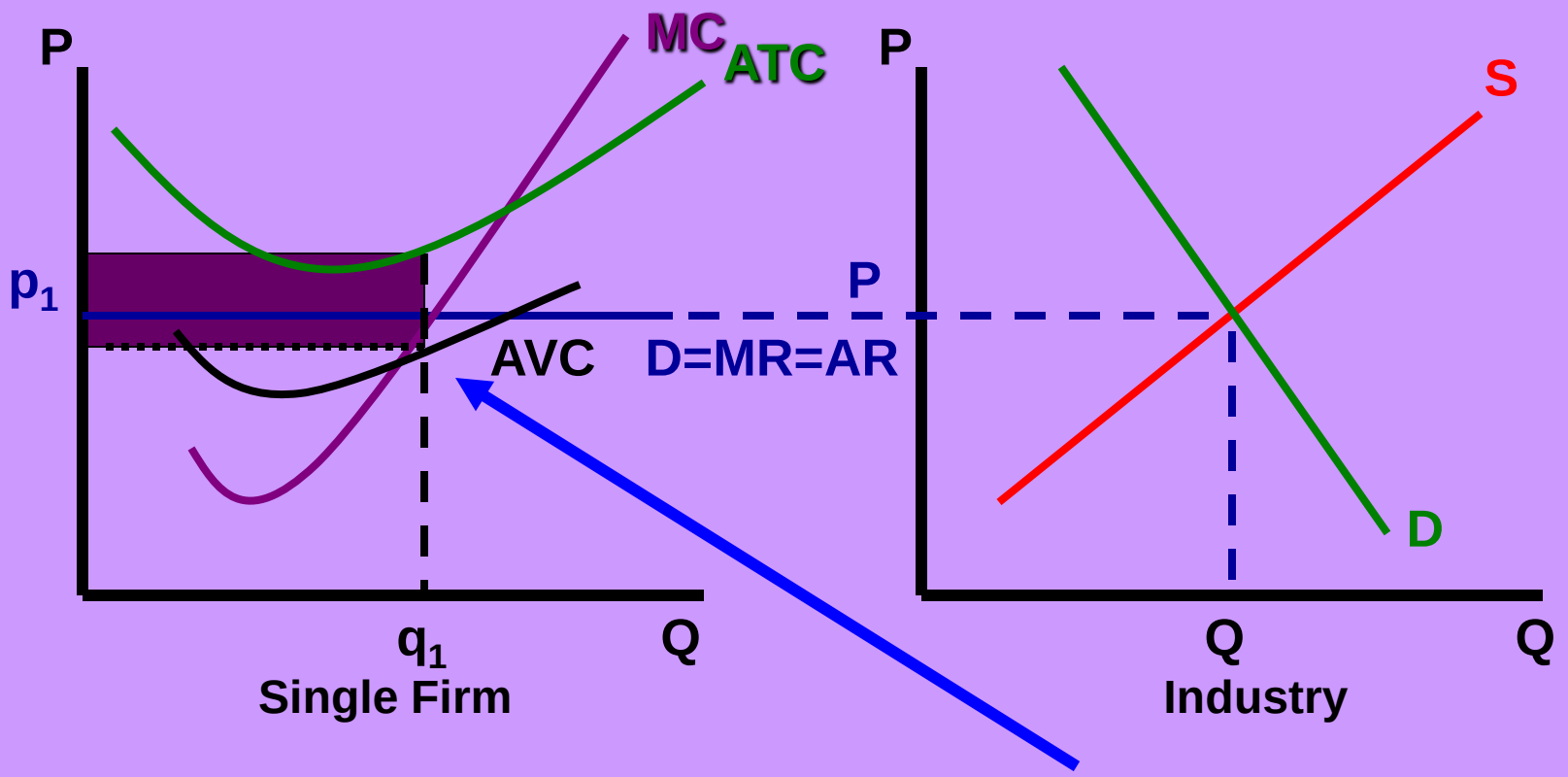
PERFECT COMPETITION



In the situation above, the firm is producing at **PROFIT MAXIMIZING** output, but is still operating at a loss because P < ATC.

Remember that PROFIT MAXIMIZING and **LOSS MINIMIZING** are the same concept.

PERFECT COMPETITION

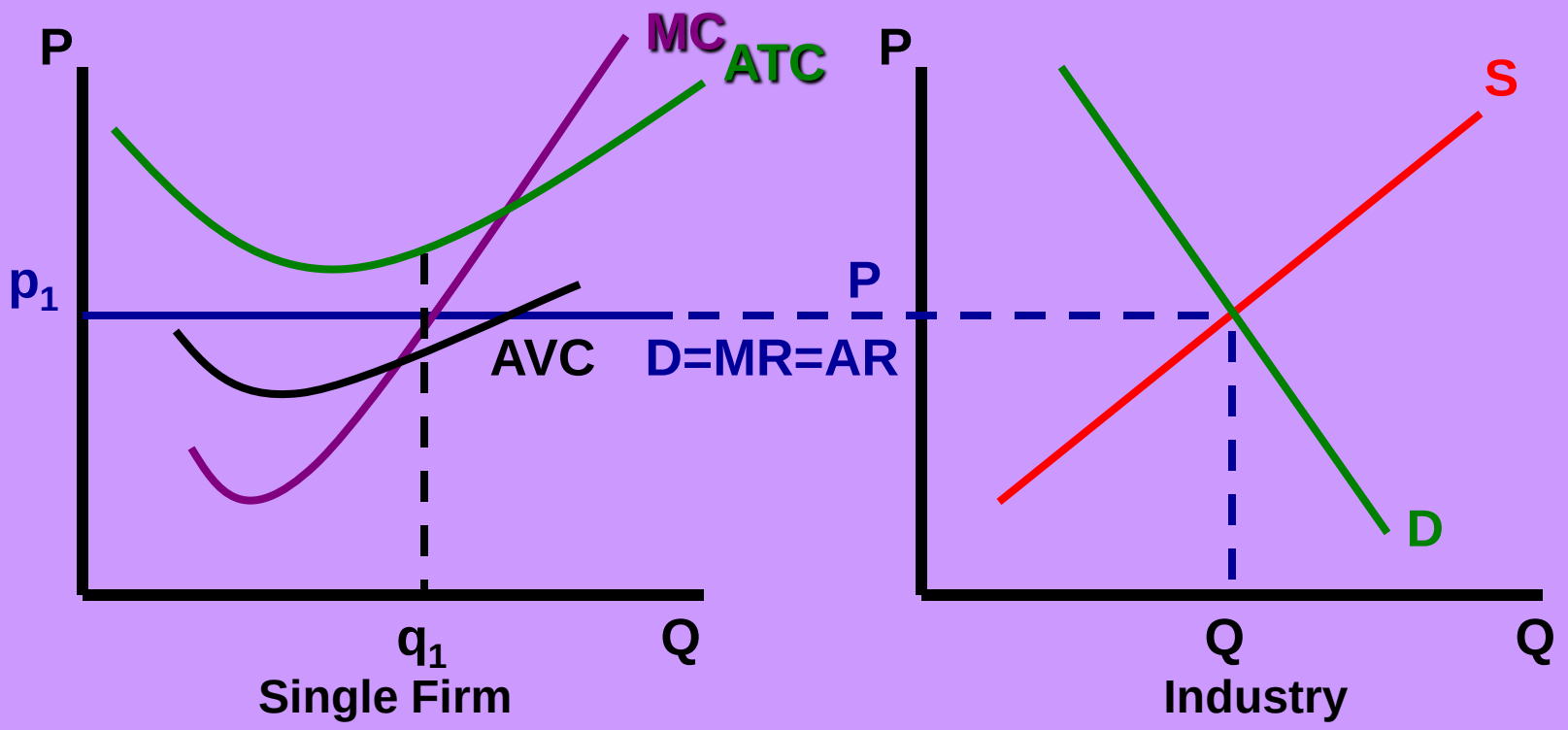


Notice the point of **AVERAGE FIXED COSTS**.

These are costs that have to be paid EVEN IF THE FIRM SHUTS DOWN.

Remember: AFC = ATC - AVC and it wouldn't matter what Q we use since AFCs don't depend on output.

PERFECT COMPETITION

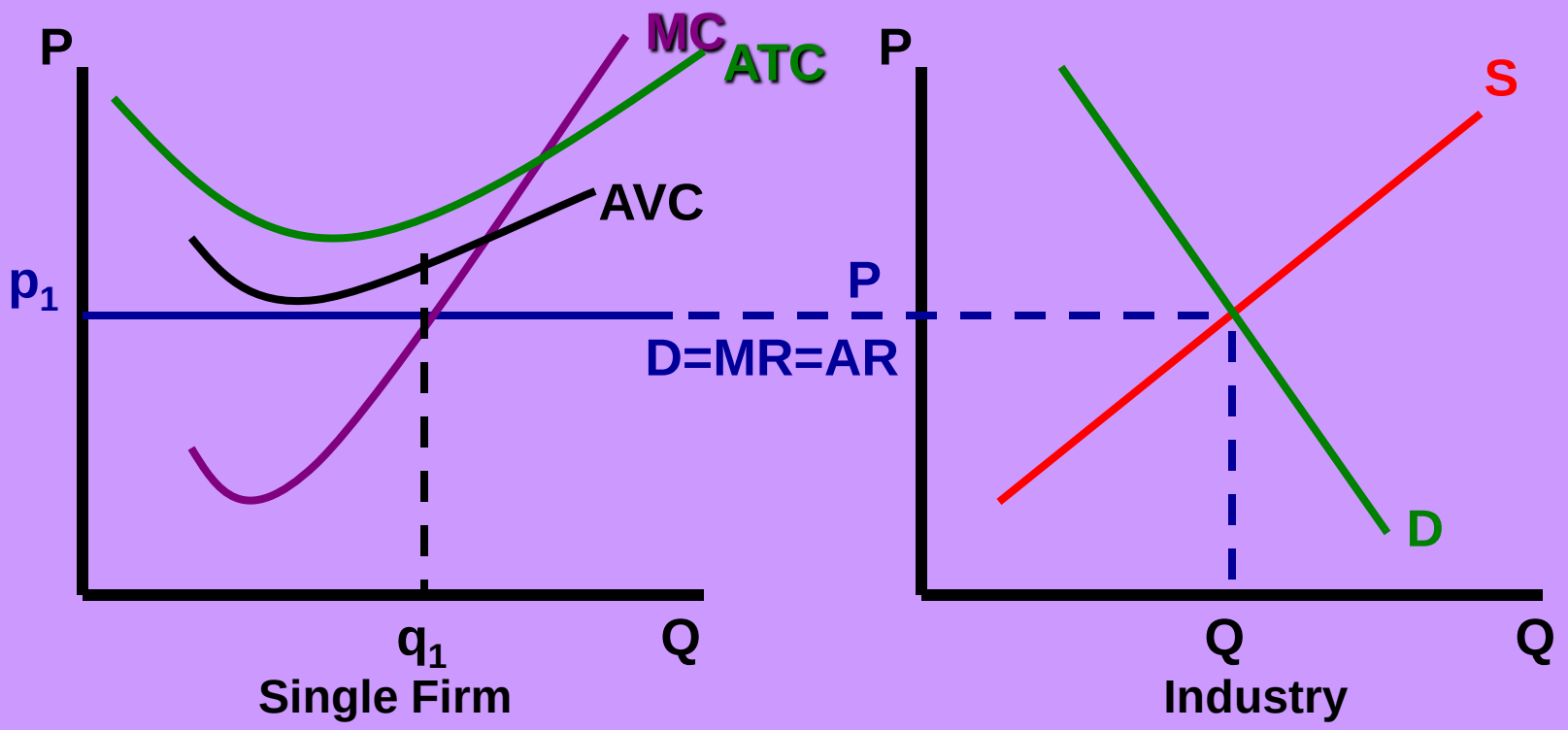


Now we can grasp a very simple rule for shut down.

If P > AVC (as above) then the firm should operate in the short run.

And…..

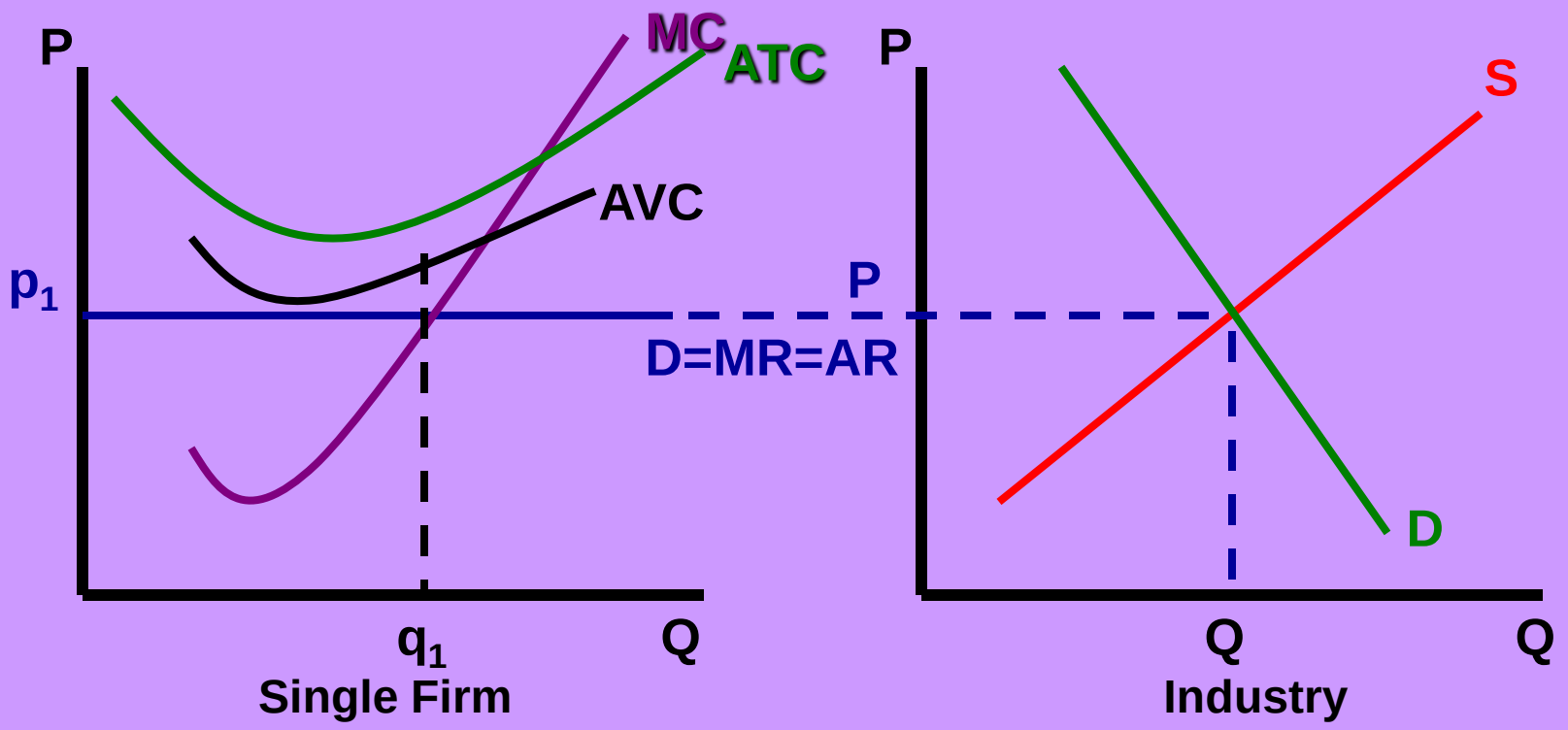
PERFECT COMPETITION



If P < AVC (as above) then the firm should shut down immediately.

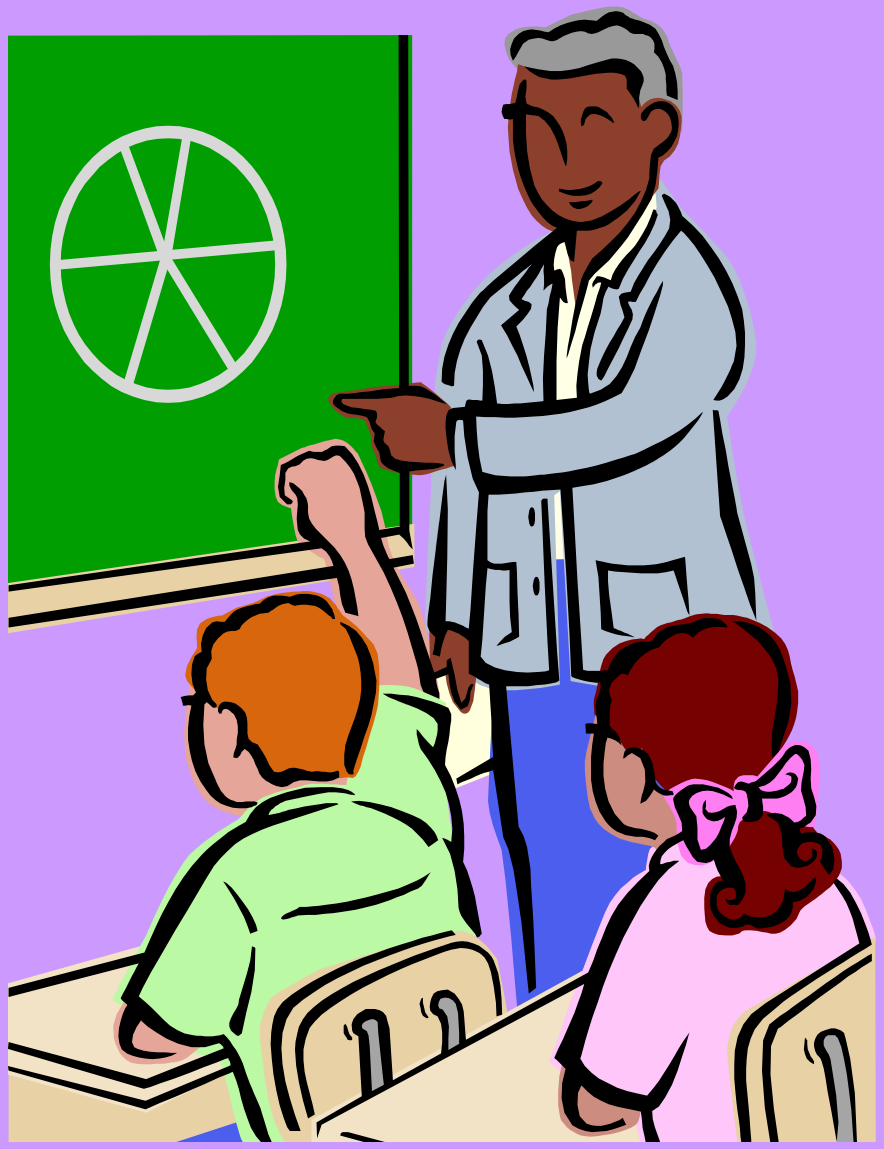
In other words, if a firm cannot cover it's FIXED COSTS, then firm should immediately shut down.

PERFECT COMPETITION



RATIONALE: If price is below AVC, then the firm earns less revenue with each additional unit of output. So the additional revenue is less than the additional cost.

Questions for Review



What are the four market models?

1) Perfect Competition
2) Monopoly
3) Monopolistic Competition
4) Oligopoly

In all four market models, the optimum production point is found where?

MC = MR

In perfect competition, price is determined by -----

The industry

Individual firms are _____ and will take the _____.

price-takers

market price

In perfect competition, the price line is labeled how?

MR=P=AR=D

MR is determined how?

Change in TR divided by change in q

MC touches ATC at what point?

it’s lowest

When ATC is above P line, then the firm is experiencing a _____

loss

P x q =

TR

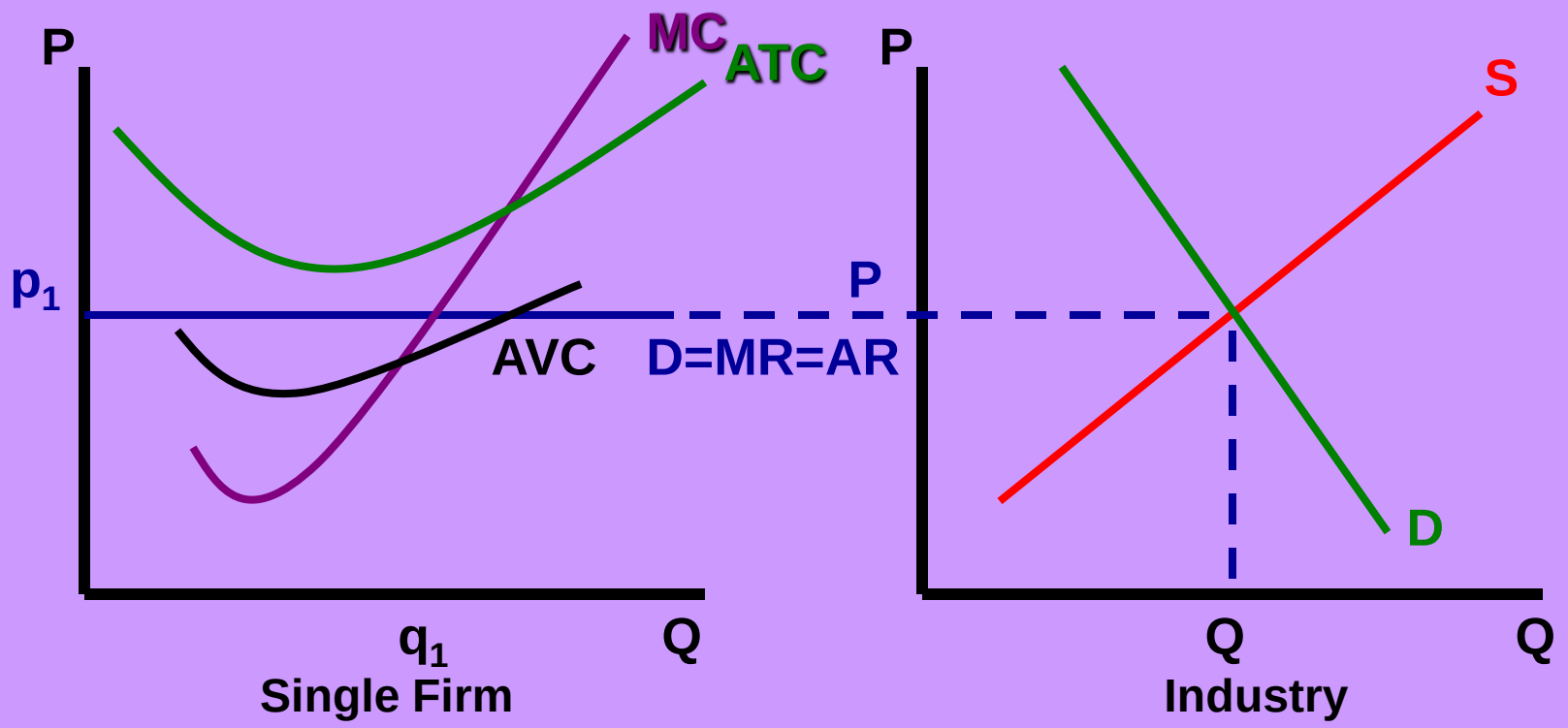
In the long run, when individual firms are earning economic profits, what will happen?

more firms enter the market causing the industry supply curve to shift up.

In the long run ATC should equal ____ at _____.

MR=P=AR=D at it's lowest point.

PERFECT COMPETITION



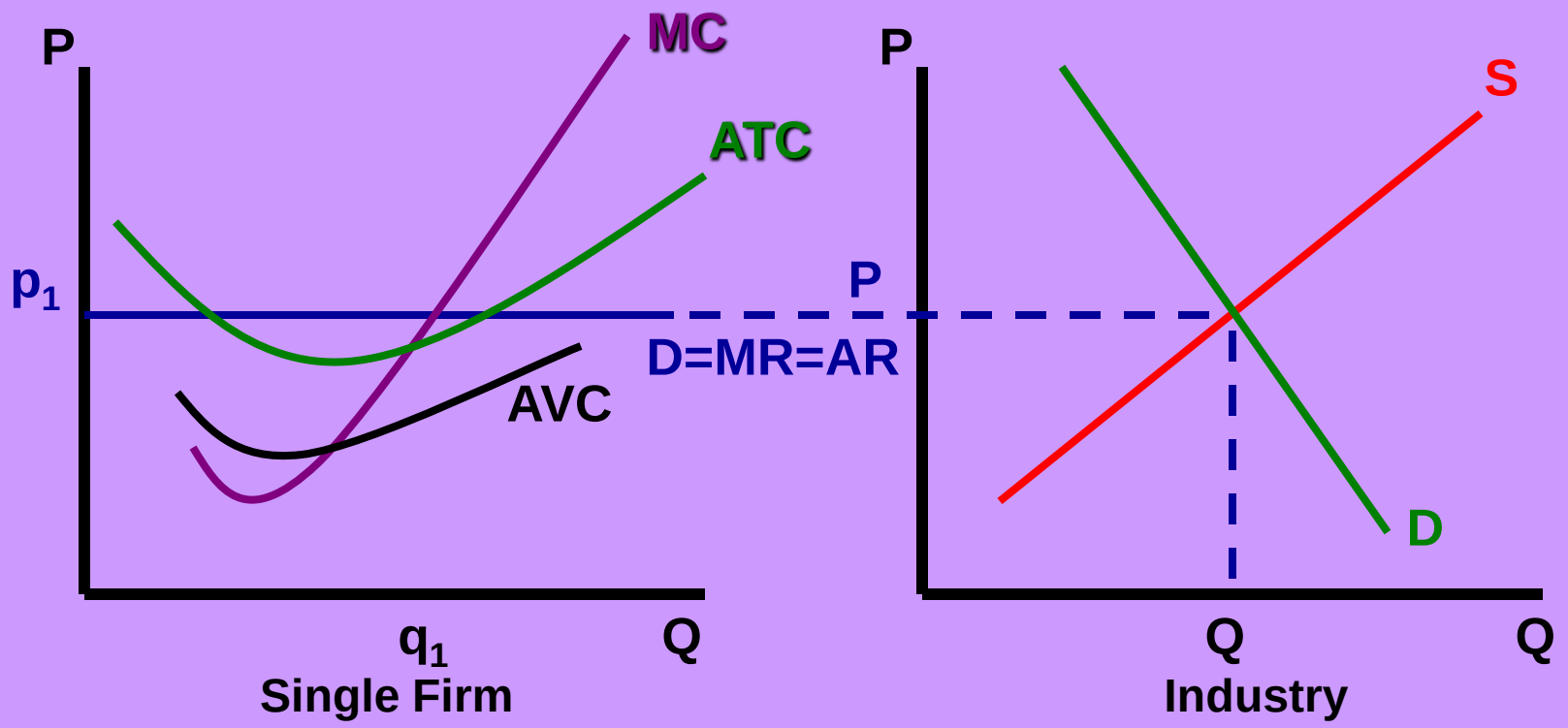
Should this firm:

a) Operate as usual

b) Operate in the short-run

c) Shutdown

PERFECT COMPETITION



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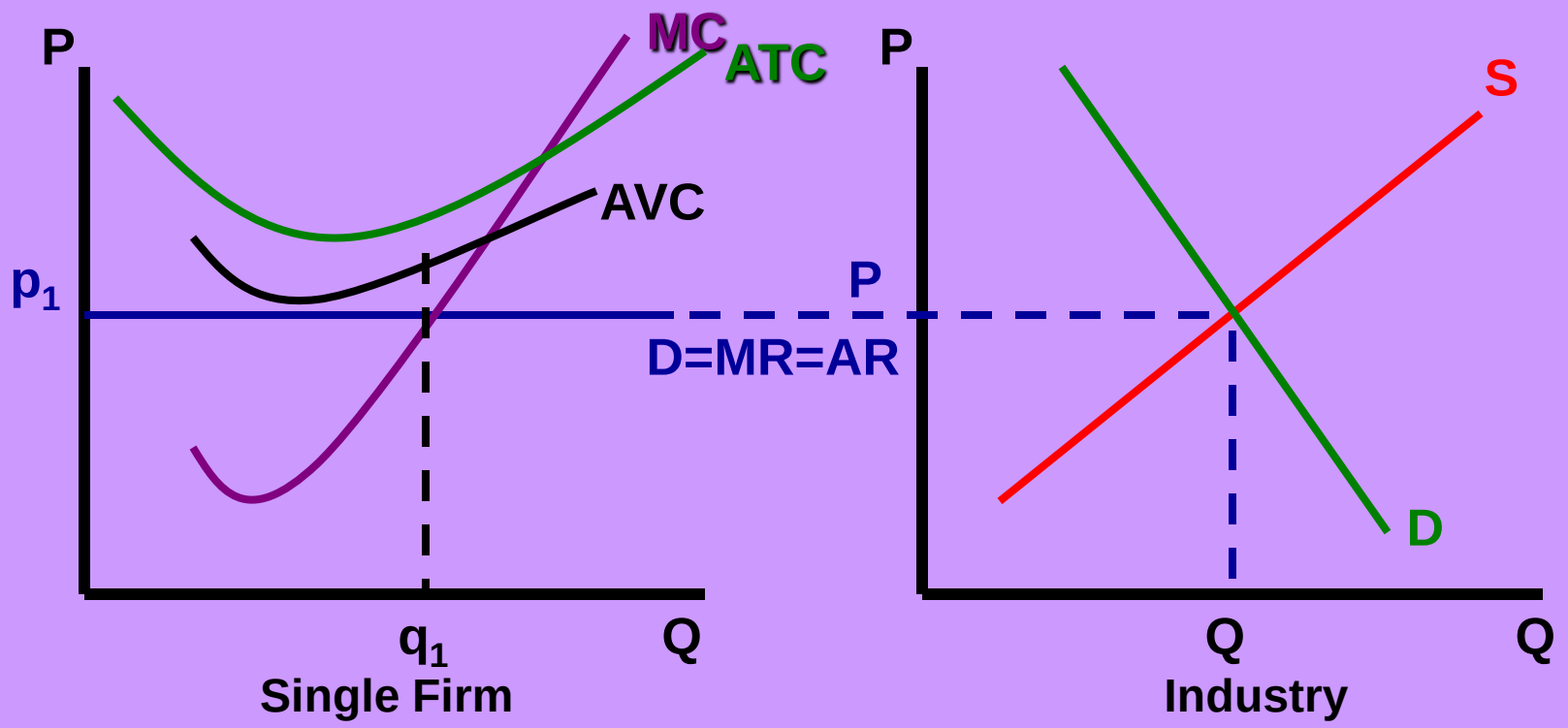
PERFECT COMPETITION



Should this firm:

a) Operate as usual

b) Operate in the short-run

c) Shutdown

PURE MONOPOLY

CHARACTERISTICS of MONOPOLY

1) Single seller

2) No close substitutes

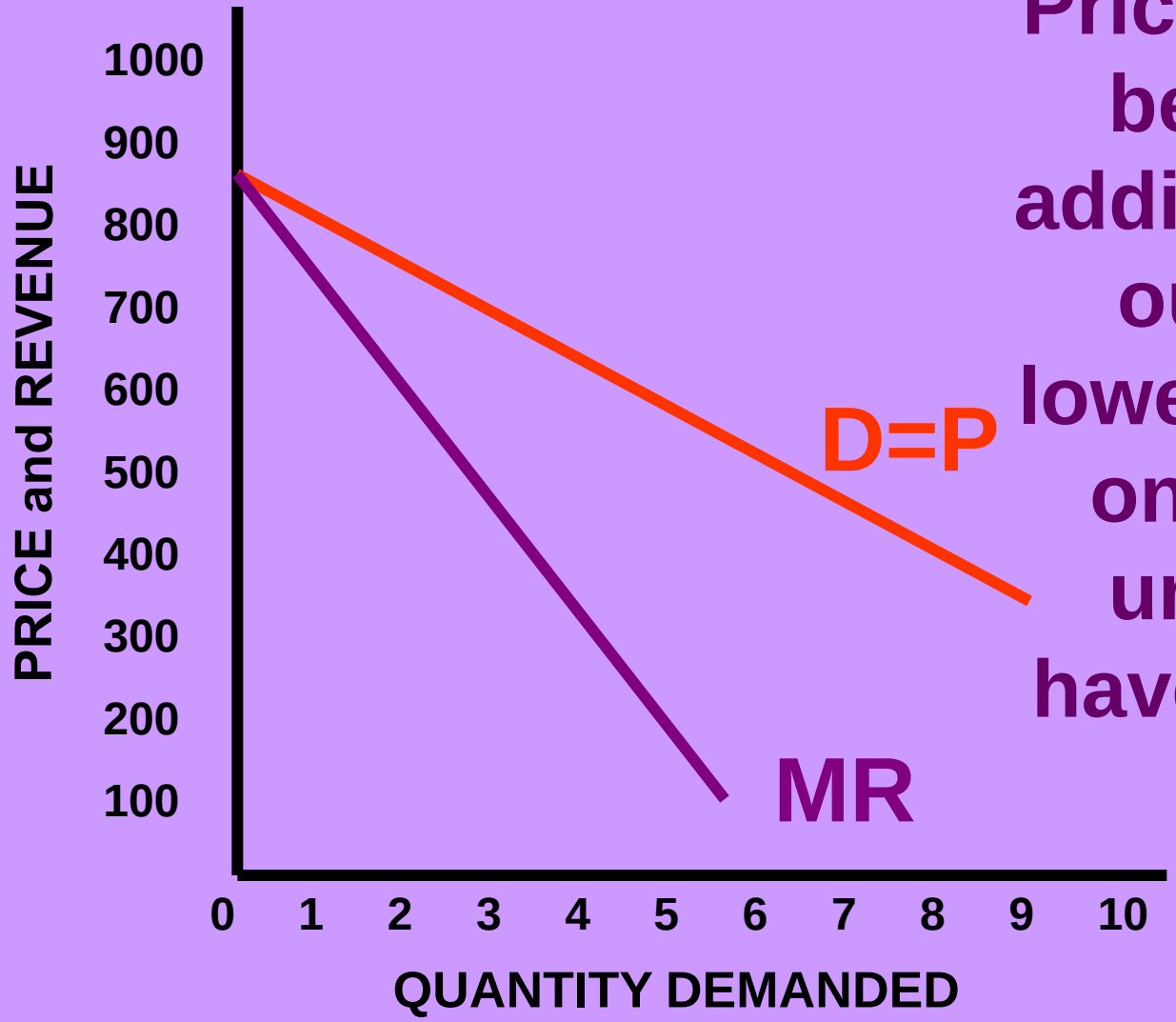
3) "Price maker" (…..not "price taker")

4) Blocked Entry

5) Nonprice competition

In a MONOPOLY, the "firm" and the "industry" are the same.

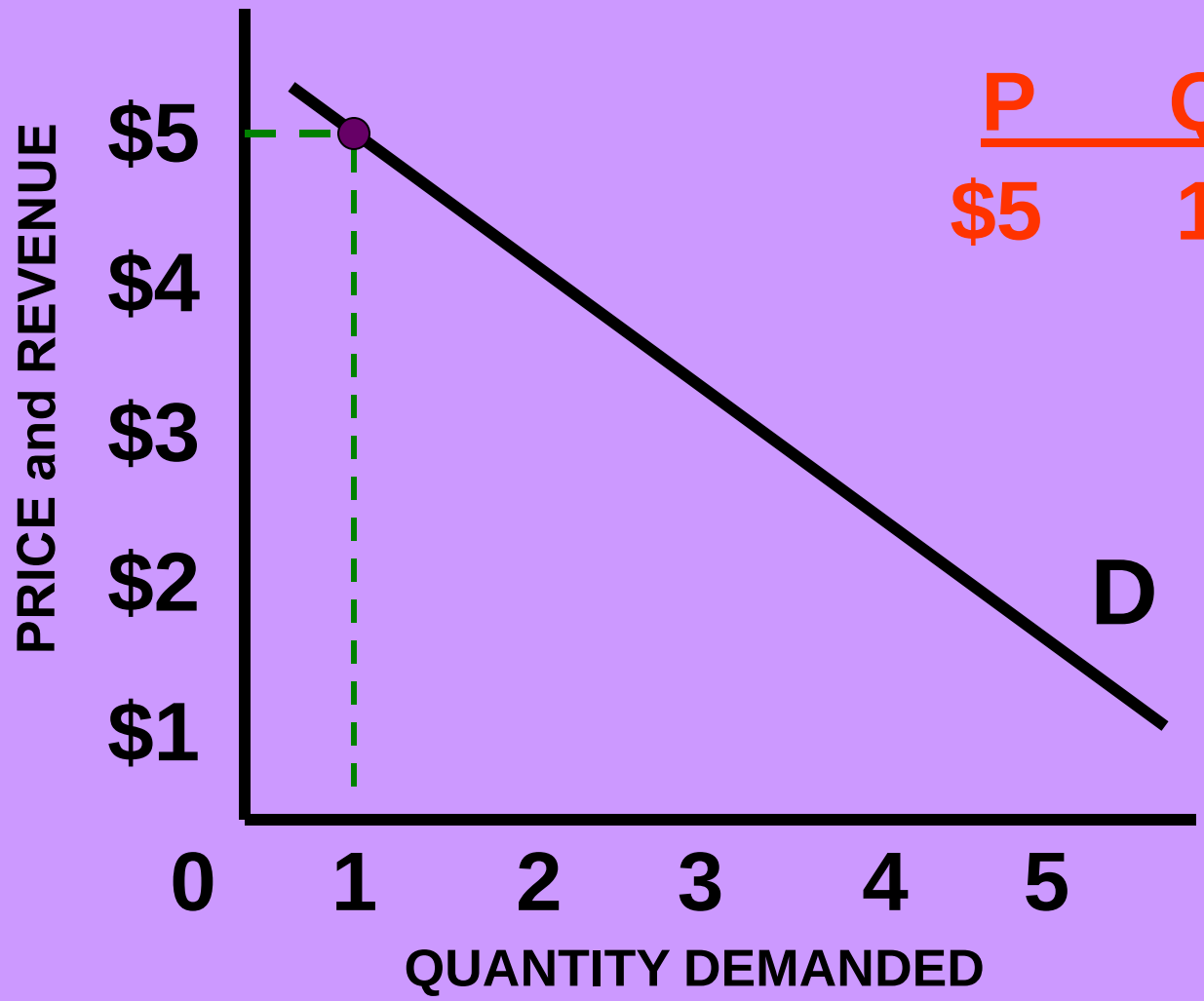
The market D curve shows the price at which each unit of output can be sold.



Price exceeds MR because selling additional units of output requires lowering the price on all preceding units that could have been sold at higher prices.

Let's see why this is true:

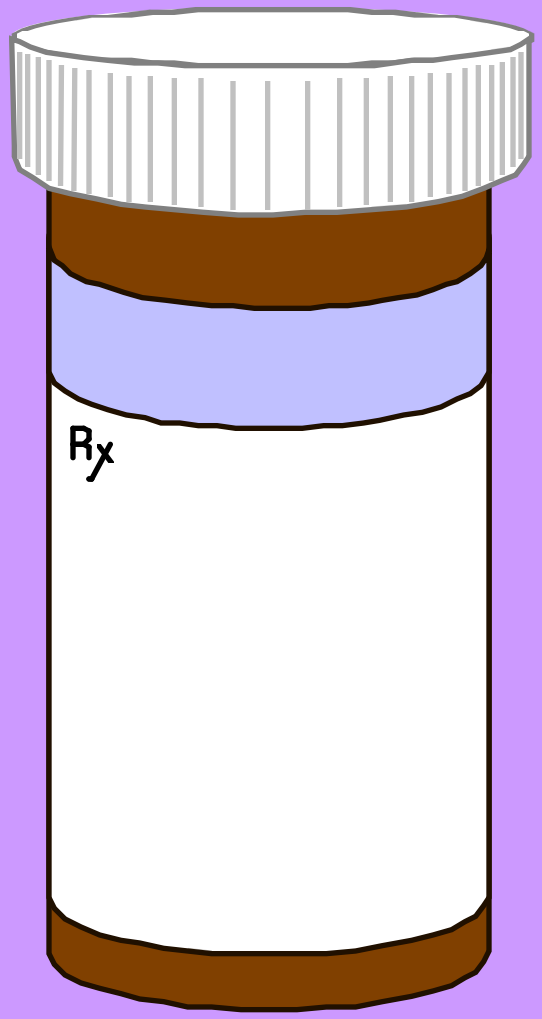
If Drugs-R-Us sets their own P=$5 on a patented drug, they will sell 1 unit and TR = $5.



P	Q	TR	MR
$5	1	$5	

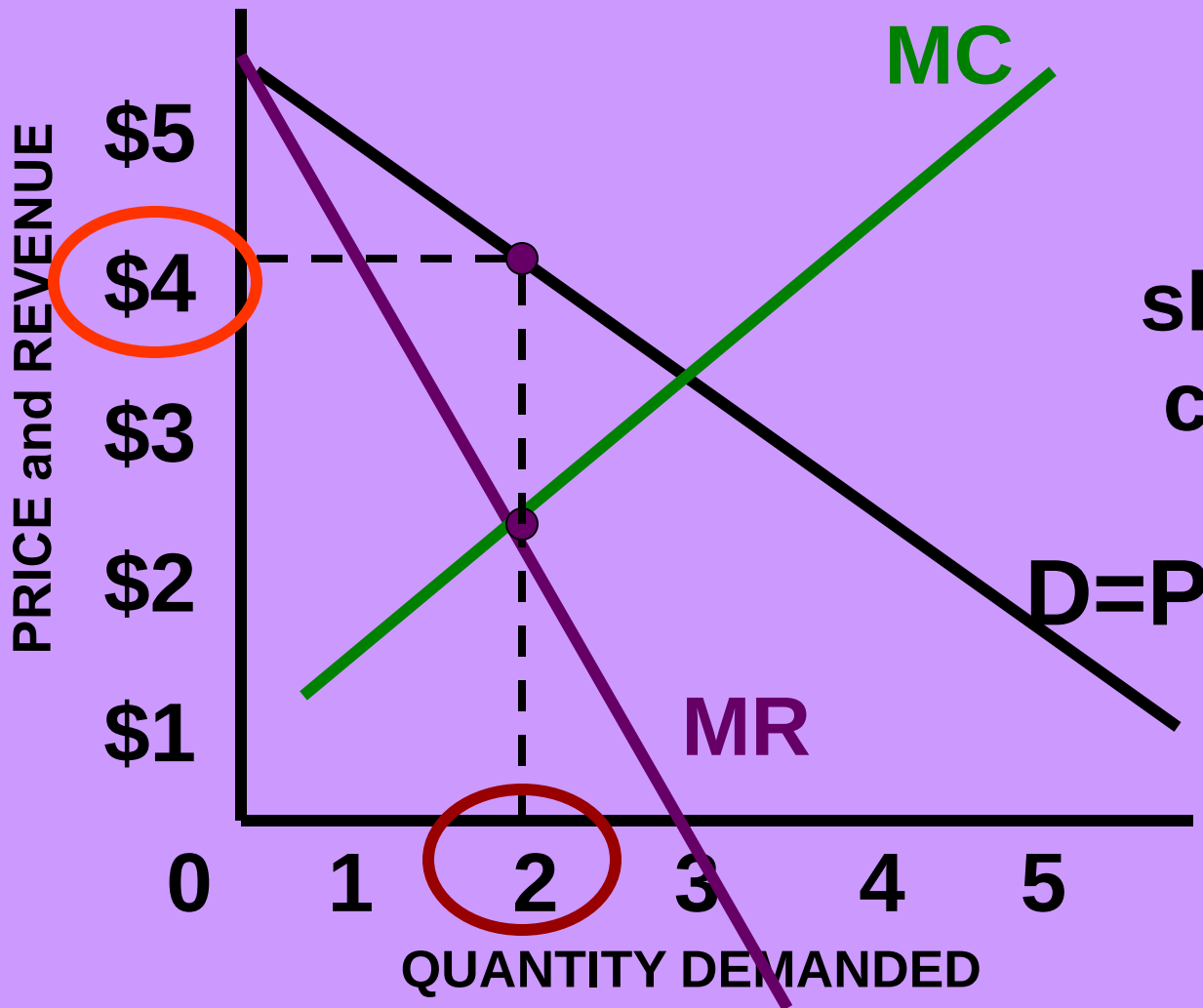
If Drugs-R-Us lowers P = $4, they will sell 2 units, resulting in TR = $8, resulting in a MR = $3.

P	Q	TR	MR
$5	1	$5	]> $3
$4	2	$8	



When a patent gives a firm a monopoly over the sale of a drug, the firm charges the monopoly price, which is well above the marginal cost of making the drug.

How does the monopolist determine its profit-maximizing output (q)?

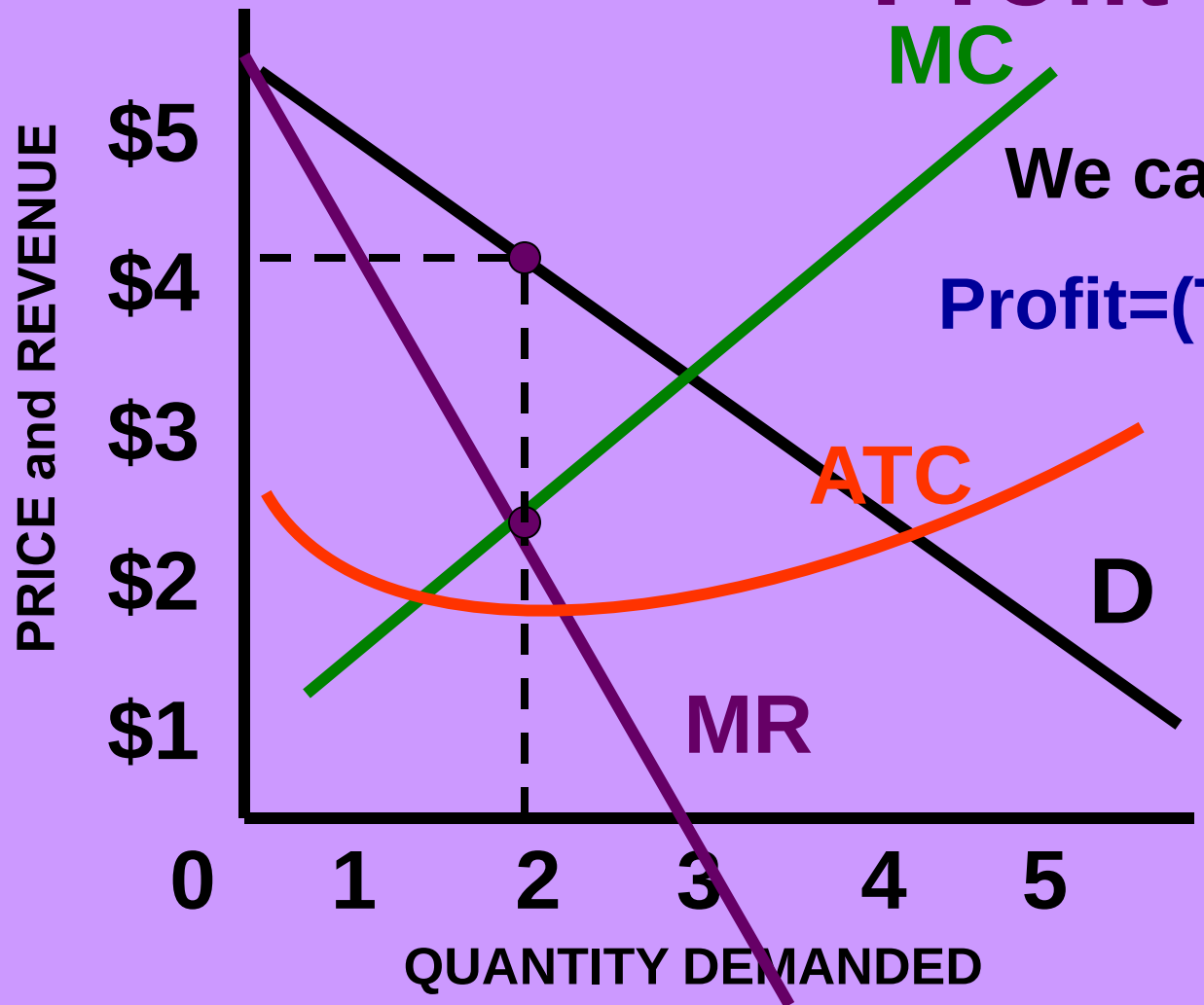


MC = MR

And then the demand curve shows the price consistent with this quantity.

So how much profit does the monopoly make?
What is the equation for Profit?

Profit = TR - TC

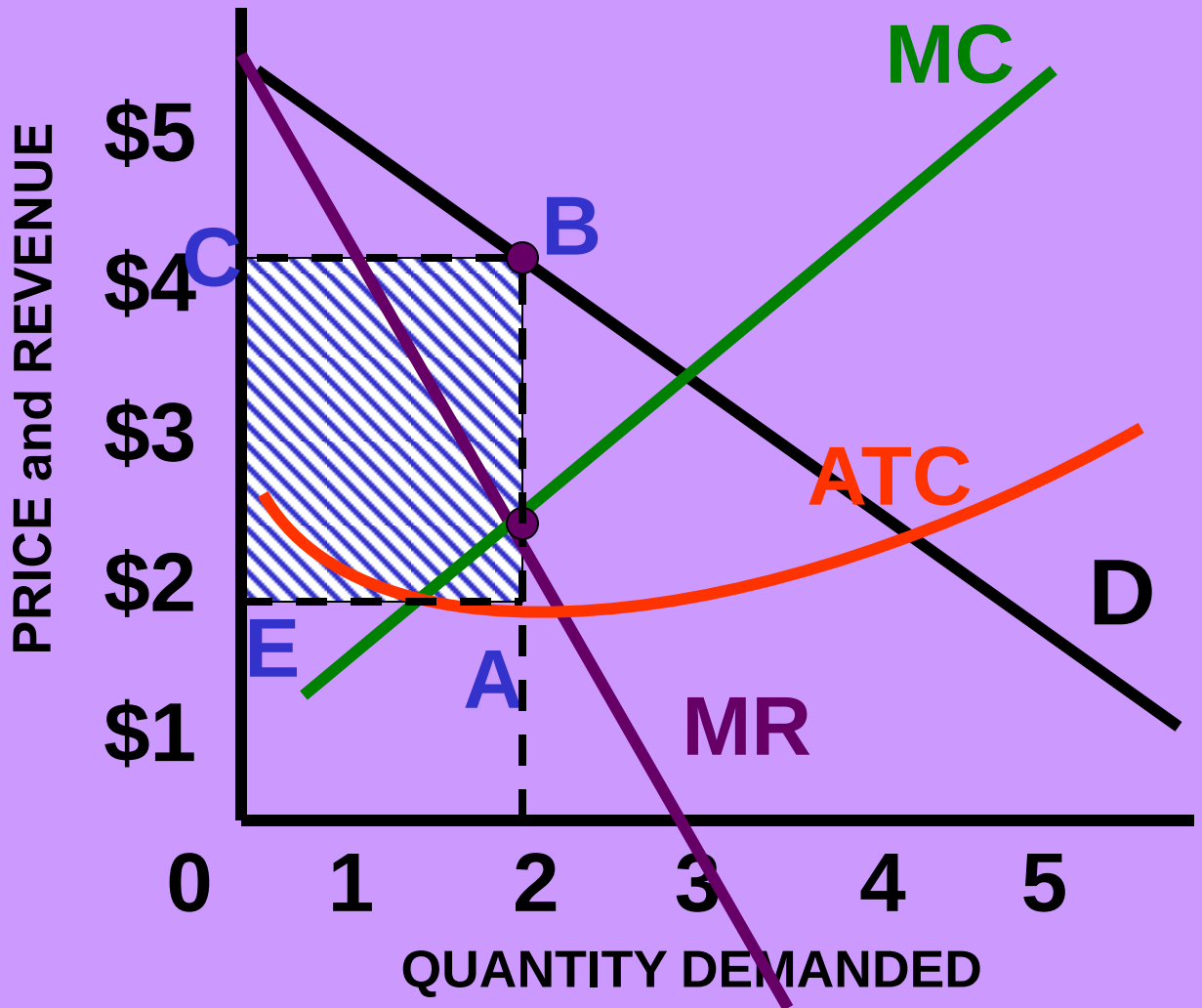


We can rewrite this as

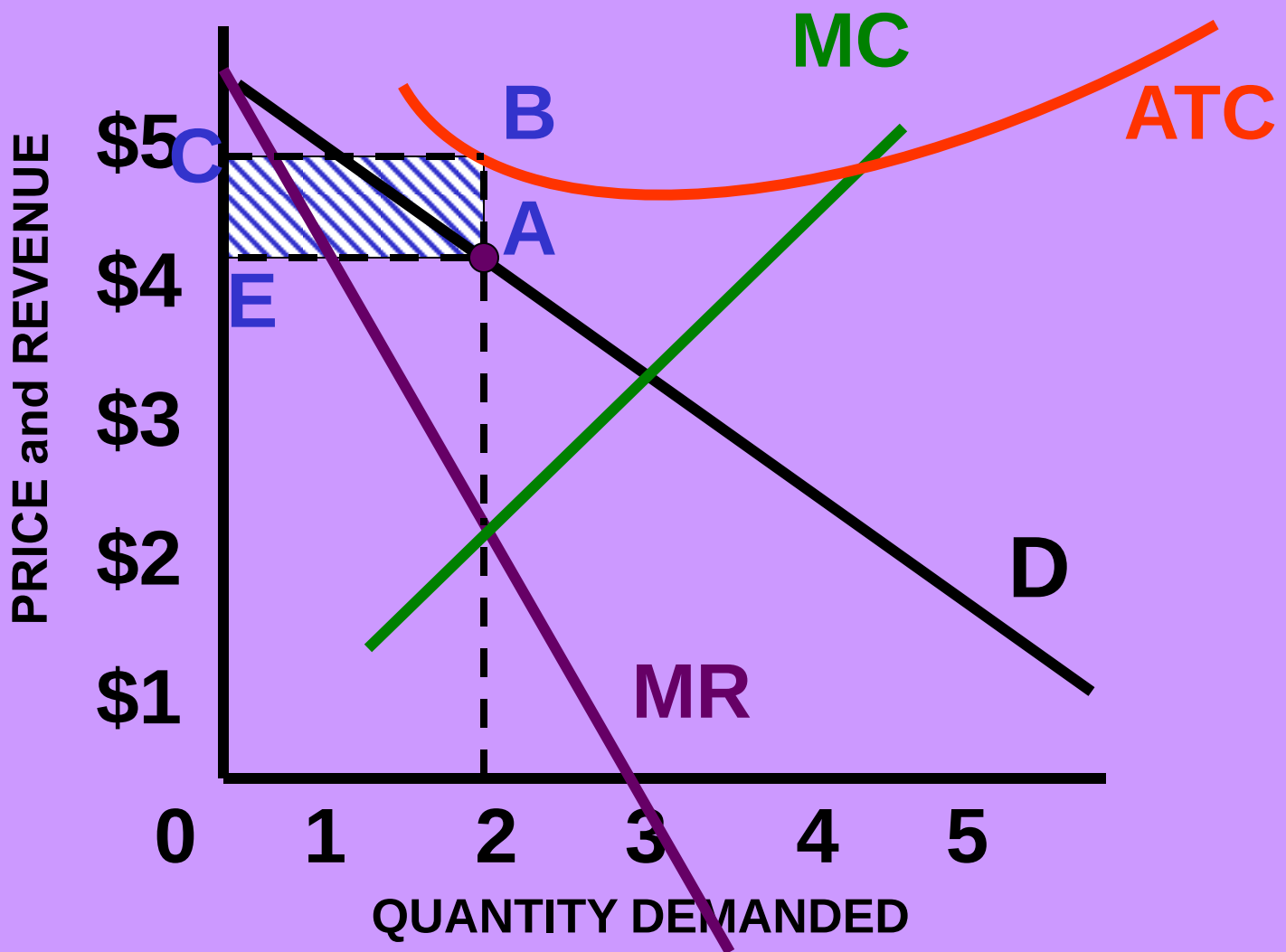
Profit=(TR/Q - TC/Q) x Q

TR/Q is AR, which equals P, and TC/Q is ATC.

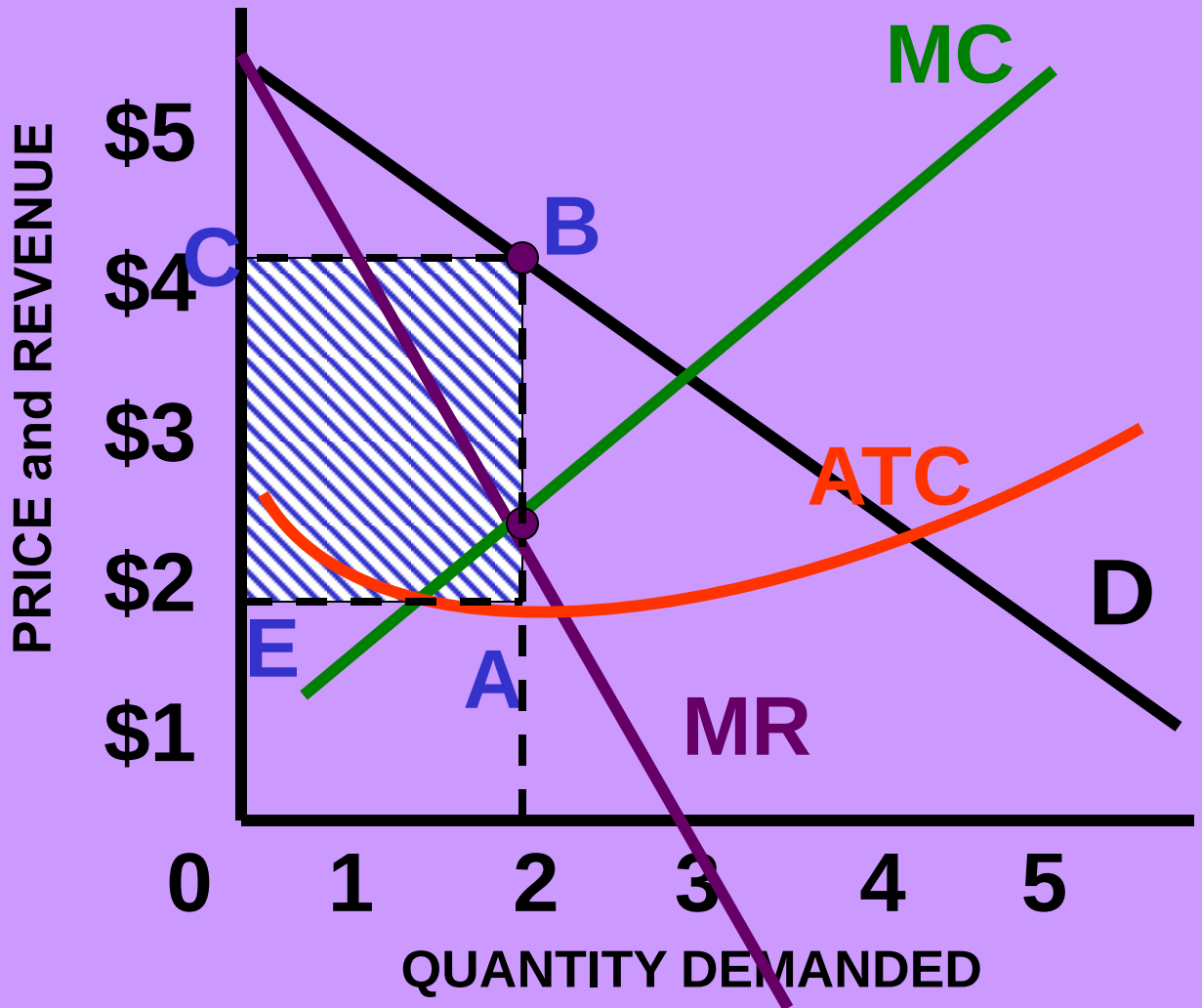
The area of the box A, B, C, E equals the profit for Drugs-R-Us.



To depict the loss for the monopoly the ATC curve must be above D.



Hopefully, a monopolist would reevaluate his situation and solve the problem so he is making a profit.

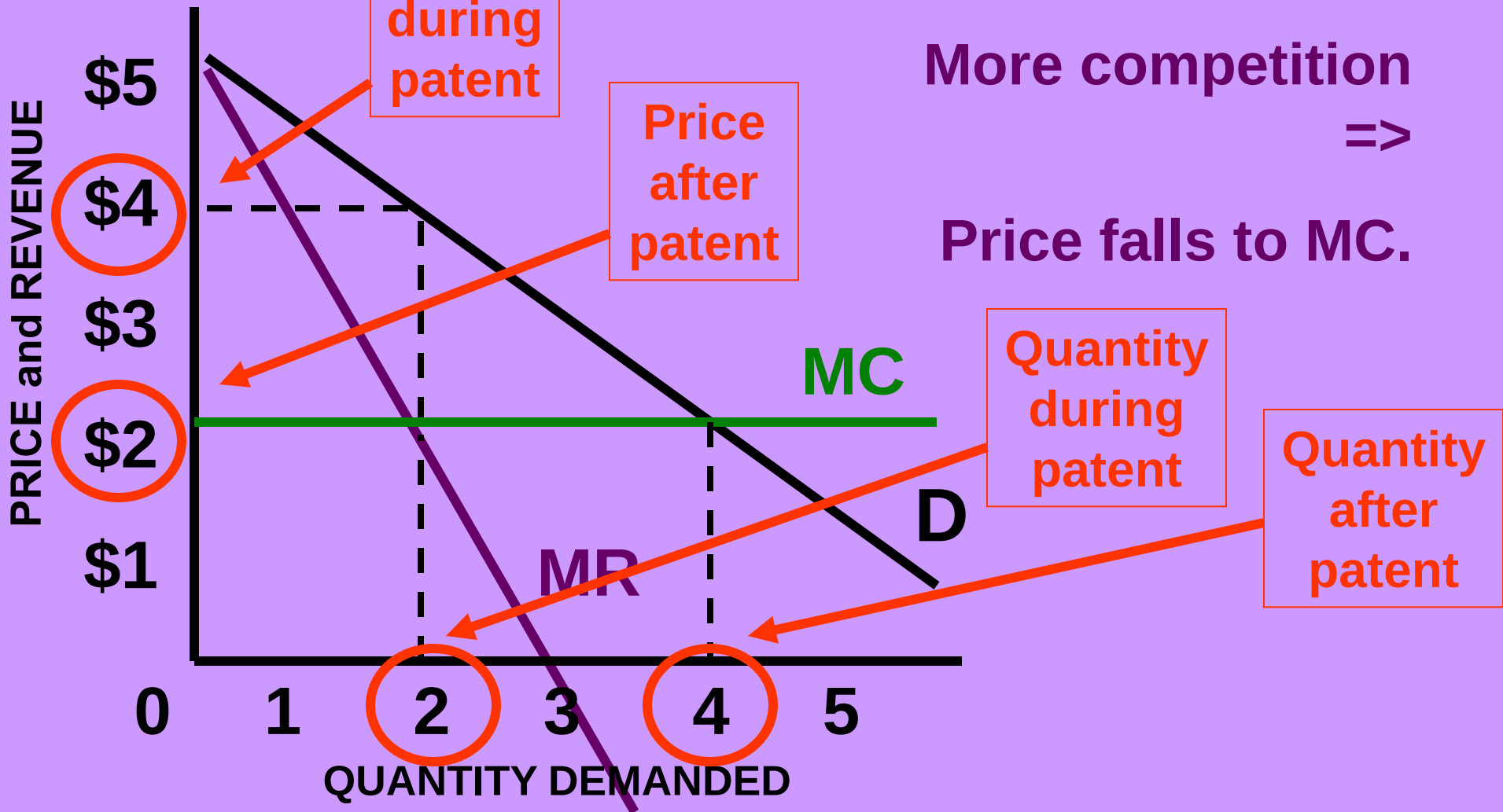


So…..what happens when the patent runs out??☐

New firms enter the market =>

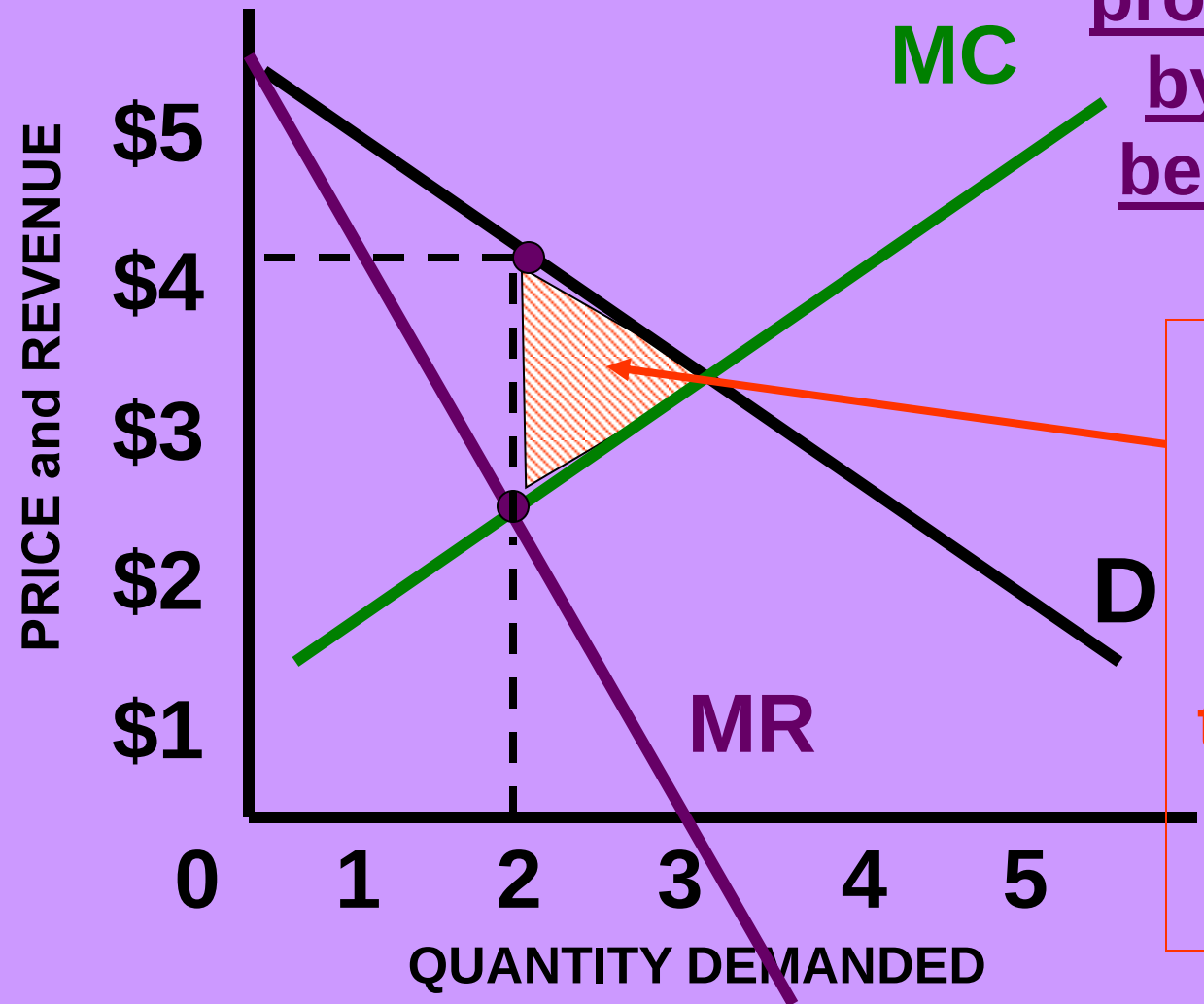
More competition =>

Price falls to MC.



Because a monopoly charges a price above MC, not all consumers who value the good at more than cost will buy it.

Thus, the quantity produced and sold by a monopoly is below the socially efficient level.



The deadweight loss is represented by the area of the triangle between D curve and MC curve.

So far, we have been assuming that the monopoly firm charges the same price to all consumers. In many cases, however, monopolist will use PRICE DISCRIMINATION, or sell the same good to different customers for different prices

This practice is not possible in competitive markets where there are many firms selling the same product at competitive prices.

How does the monopolist decide why and how to price discriminate?

Suppose you are President of Books-R-Us. The newest publication can be sold at differing prices to 2 types of readers:

1) Sell the books to 100,000 die-hard fans who will pay $30 /book, and/or

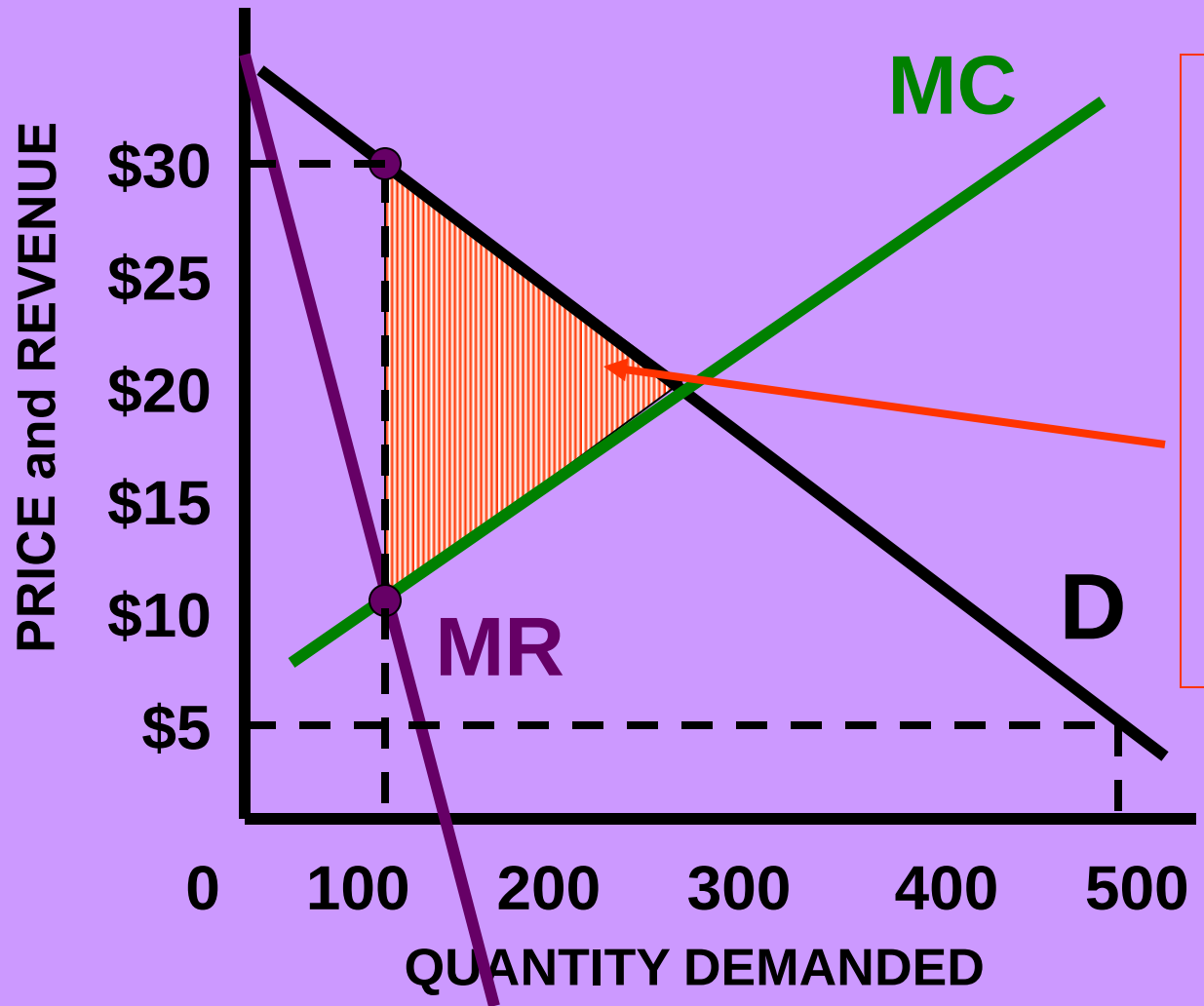
2) Sell the books to 400,000 less enthusiastic readers who will pay $5/book. (which would equal 500,000 total books sold)

There are 2 options to consider:

Option 1	Option 2
100,000	500,000
X $30	X $5
$ 3 million (revenue)	$ 2.5 million (revenue)
- 2 million (cost)	- 2 million (cost)
$1 million (profit)	$500,000 (profit)

Notice this decision creates deadweight loss.

Books-R-Us produces only 100K books and the quantity produced and sold by them is below the socially efficient level.



The deadweight loss is represented by the area of the triangle between D curve and MC curve.

But then, Books-R-Us executives make an important discovery.

It turns out that the 100,000 die hard fans live in Great Britain, and the 400,000 less enthusiastic readers live in the United States.

Now, the profit/loss calculations look a bit different.

Revenues/GB	$3m
Revenues/US	+$2m
Total Revenue	$5m
Cost	-$2m
Profit	$3m

This is called? PRICE DISCRIMINATION

Three Lessons:

1) Price discrimination is a profit-maximizing strategy for the monopolist.

2) Price discrimination requires ability to separate customers dependant upon their willingness to pay. **(young/old…geographical…day/night shoppers…etc._□)**

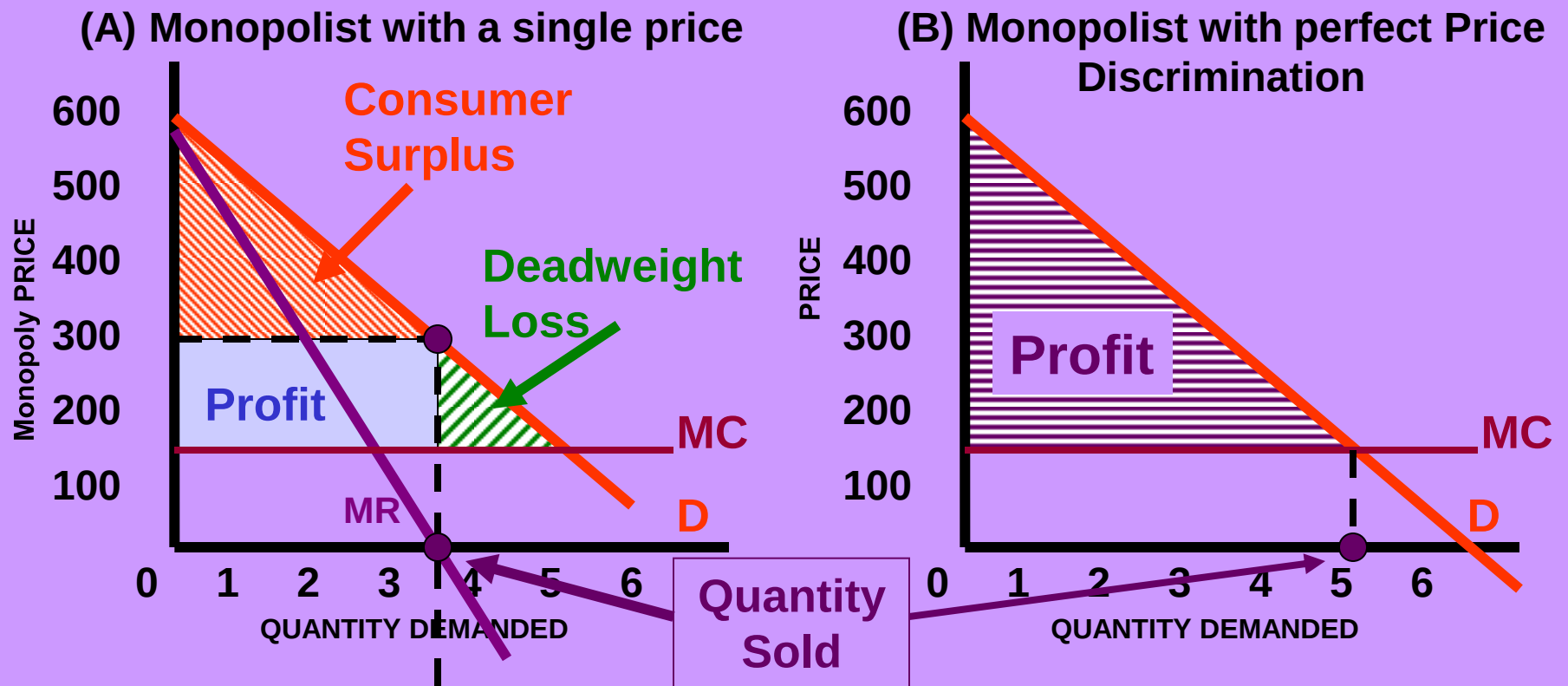
However, *arbitrage* can prevent this from happening.
Arbitrage is the buying of an item at a lower price and reselling it in a market to get the higher price.

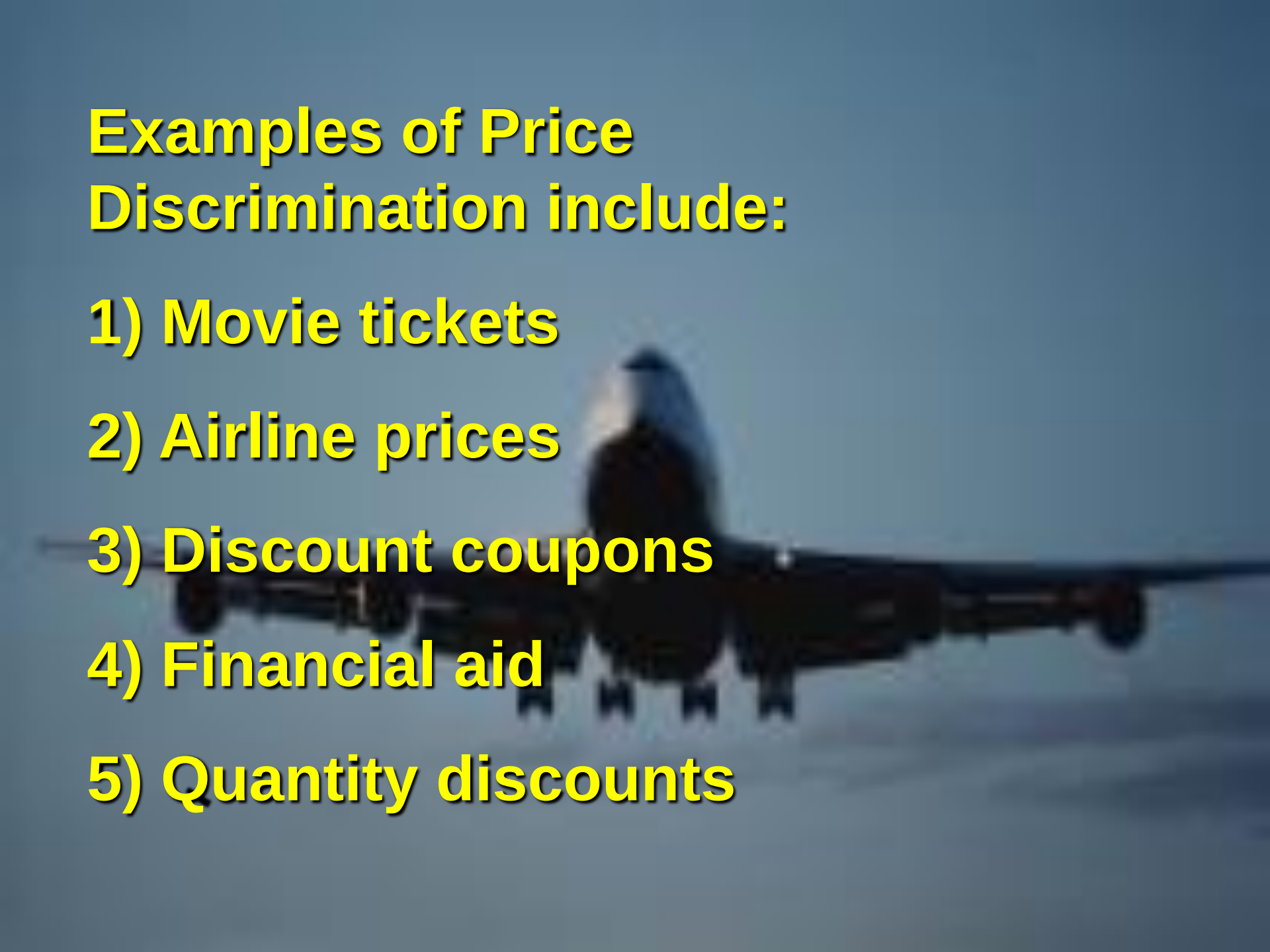
3) Price discrimination can raise economic welfare. By selling the books at differing prices in two different markets, more people actually purchased the book. It eliminates the inefficiency in monopoly pricing by eliminating the deadweight loss.

Graph A Show a monopolist that charges the same price to all customers. Total surplus in this market equals the sum of profit (producer surplus) and consumer surplus.

Graph B shows a monopolist that can perfectly price discriminate. Consumer surplus is zero, total surplus now equals the firm's profit.

Comparing these two panels, you can see that perfect price discrimination raises profit, raises total surplus, and lowers consumer surplus.





Examples of Price Discrimination include:

1) Movie tickets

2) Airline prices

3) Discount coupons

4) Financial aid

5) Quantity discounts

To do Activity 37 through 43, you will NEED to know:

1) **MC = MR**
2) **MC**
3) **ATC = TC / output**
4) **MR**
5) **AR = D = P**
6) **Profit = TR - TC**
7) **price maker**
8) **the firm and the industry are one**

The OLIGOPOLY

An oligopoly has:

1) few sellers

2) similar/identical product

Q (gal)	P	TR
0	$120	$ 0
10	110	1100
20	100	2000
30	90	2700
40	80	3200
50	70	3500
60	60	3600
70	50	3500
80	40	3200
90	30	2700
100	20	2000
110	10	1100
120	0	0

Let's consider a town's demand for water and the table to the right. If you graphed these two columns of numbers, you would get a standard downward sloping demand curve.

There is no cost to pumping the water so the TOTAL REVENUE = TOTAL PROFIT.

Consider first what would happen if the market for water were PERFECTLY COMPETITIVE:

Q (gal)	P	TR
0	$120	$ 0
10	110	1100
20	100	2000
30	90	2700
40	80	3200
50	70	3500
60	60	3600
70	50	3500
80	40	3200
90	30	2700
100	20	2000
110	10	1100
120	0	0

In competitive market, the production decisions of each firm drive price equal to Marginal Cost.

WHAT IS THE MC FOR WATER?

ZERO

So the equilibrium price would be:

ZERO

The equilibrium quantity would be:

120 gallons

The price of water would reflect the cost of production, and the efficient quantity of water would be produced and consumed.

Q (gal)	P	TR
0	$120	$ 0
10	110	1100
20	100	2000
30	90	2700
40	80	3200
50	70	3500
60	60	3600
70	50	3500
80	40	3200
90	30	2700
100	20	2000
110	10	1100
120	0	0

How would a monopolist handle this market?

WHERE IS TOTAL PROFIT MAXIMIZED?

$3600 (Q=60, P=60)

The profit maximizing monopolist would produce this Q and charge this P. P would be > MR.

The result would be inefficient as the quantity of water produced and consumed would be far below the socially efficient level of 120 gallons.

What would happen in the oligopoly?

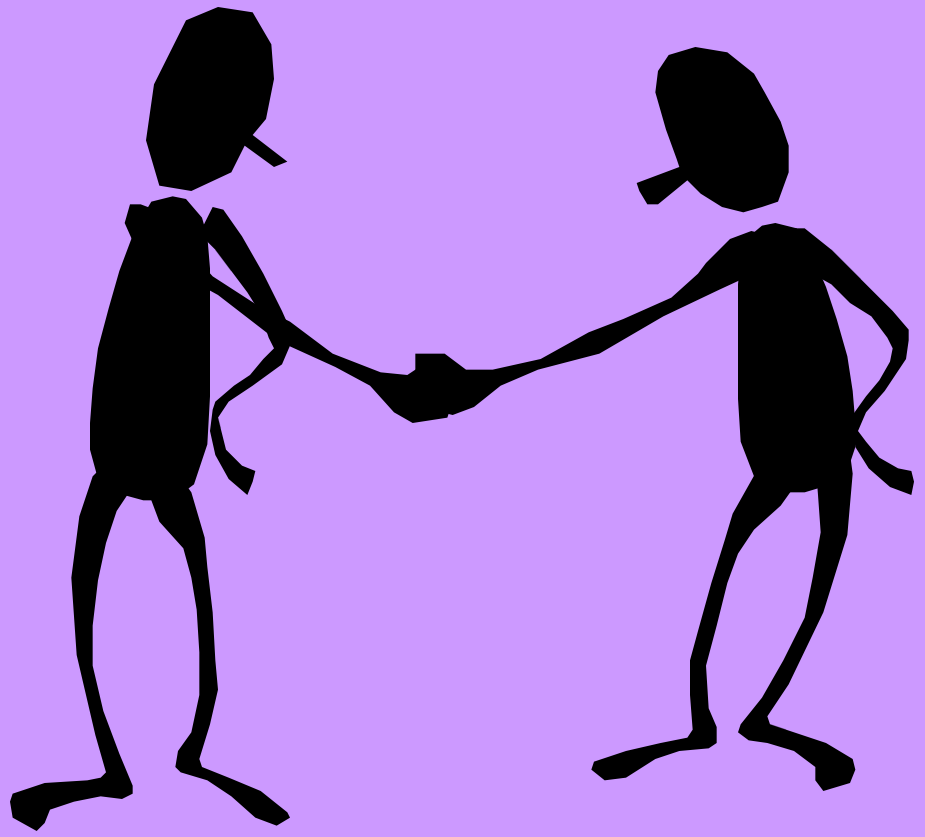
Let's suppose that we are dealing with a simple form of the oligopoly with only two members, called a DUOPOLY. We'll call the companies HECKLE and JECKLE.

1) One possibility would be for the two companies to get together and decide on Q and P.

This agreement is called COLLUSION and the two companies would now be called a CARTEL.

In this situation, the two companies would produce at monopolist Q and P.

Once again, P>MC and the outcome would be socially inefficient.



Q (gal)	P	TR
0	$120	$ 0
10	110	1100
20	100	2000
30	90	2700
40	80	3200
50	70	3500
60	60	3600
70	50	3500
80	40	3200
90	30	2700
100	20	2000
110	10	1100
120	0	0

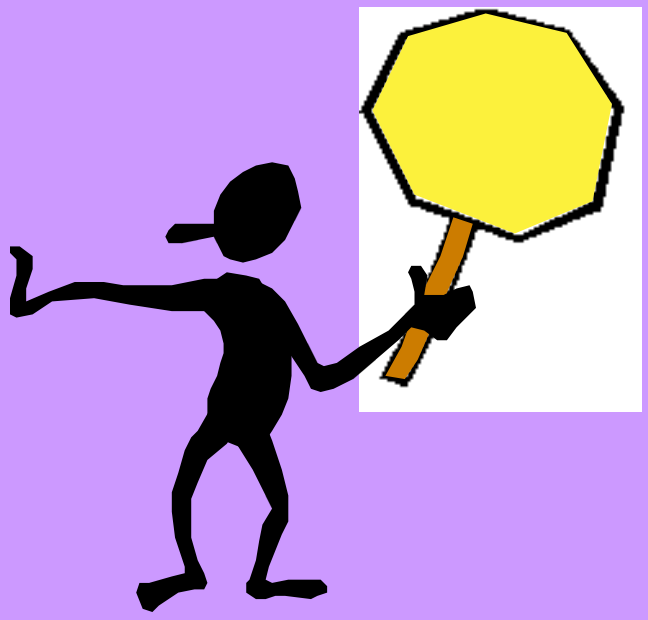
Now, Heckle and Jeckle must agree on their share of the market.

If they split the market equally, each would produce how many gallons? **30**

P would be **$60**

Profit would be **$1,800**

As a matter of public policy, however, antitrust laws prohibit explicit agreements between oligopolists.



So what happens if Heckle and Jeckle decide to produce independently??

Q (gal)	P	TR
0	$120	$ 0
10	110	1100
20	100	2000
30	90	2700
40	80	3200
50	70	3500
60	60	3600
70	50	3500
80	40	3200
90	30	2700
100	20	2000
110	10	1100
120	0	0

Suppose that Heckle expects Jeckle to produce 30 gallons. His thinking might reflect the following logic:

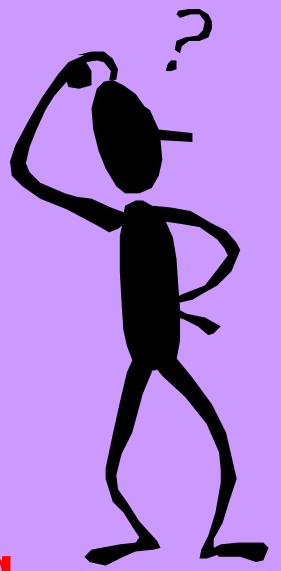
Heckle could produce 30 gallons as well resulting in the market equaling the 60 gallon efficiency point. His profit would be $1800

OR Heckle could produce 40 gallons resulting in 70 gallons in the market and water would be sold at $50/gal

Heckle's profit would be $2000

Q (gal)	P	TR
0	$120	$ 0
10	110	1100
20	100	2000
30	90	2700
40	80	3200
50	70	3500
60	60	3600
70	50	3500
80	40	3200
90	30	2700
100	20	2000
110	10	1100
120	0	0

Of course, Jeckle might reason the same way.



This would result in both Heckle and Jeckle producing 40 gallons. Total sales would be **80 gallons**

P would fall to **$40/gallon**

Heckle and Jeckle's profit would be **$1600**

Q (gal)	P	TR
0	$120	$ 0
10	110	1100
20	100	2000
30	90	2700
40	80	3200
50	70	3500
60	60	3600
70	50	3500
80	40	3200
90	30	2700
100	20	2000
110	10	1100
120	0	0

Now, a new logic enters the picture:

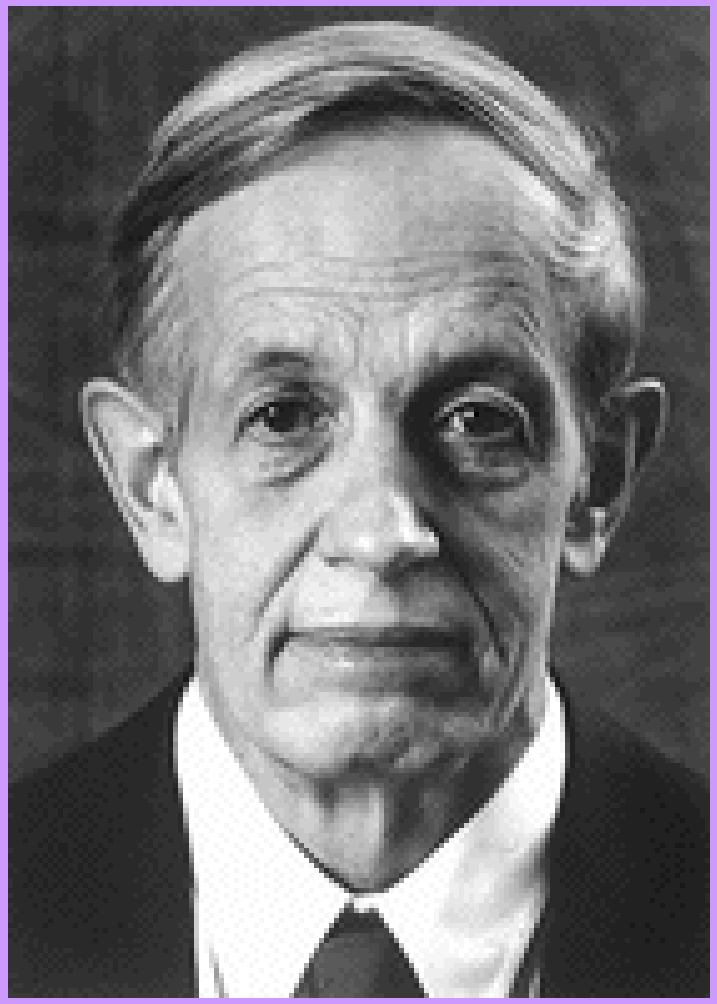
Heckle's profit is $1600. He COULD increase his production to 50 but the market would then be **90**

P would fall to **$30/gallon**

Heckle's profit would be **$1500**

He would probably conclude he is better off producing 40 gallons.

This outcome is called NASH EQUILIBRIUM, which is a situation where economic actors interacting with each other each choose their best strategy given the strategies that others have choosen. This is also called GAME THEORY.

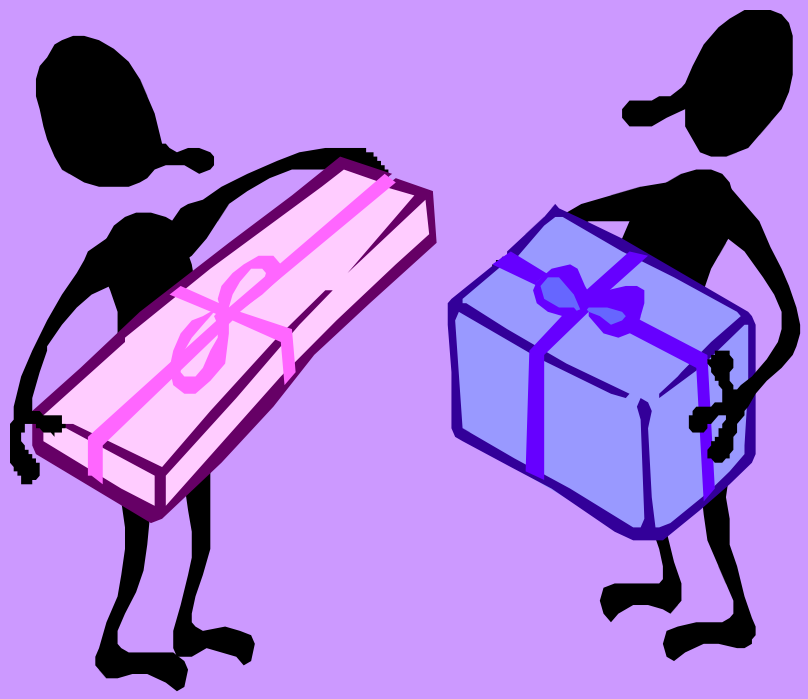


John Nash

1994 Nobel Prize, Economics

In this case, Heckle decides to produce 40 gallons based on the fact that Jeckle is producing 40 gallons.

AND, because Heckle decides to produce 40 gallons, Jeckle also decides to produce 40 gallons.



Once they reach this NASH EQUILIBRIUM, neither one has the incentive to change their strategy.

Game Theory can also be illustrated by what is called THE PRISONER'S DILEMMA.

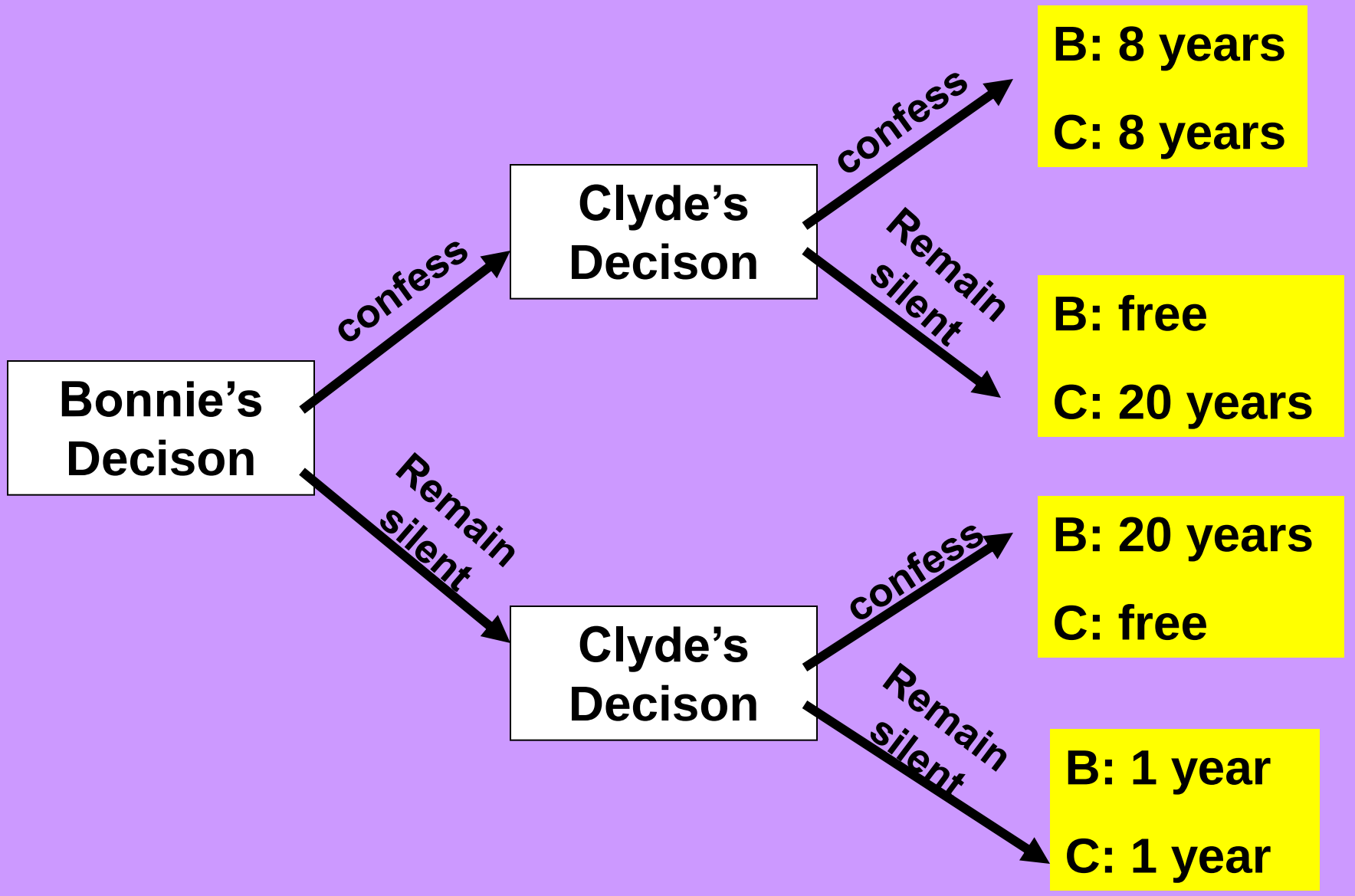
The police have enough evidence to convict Bonnie and Clyde of possession of an illegal firearm so that each would spend 1 year in jail. But they suspect that the two have pulled off some bank robberies but they have no evidence. They put Bonnie and Clyde in separate rooms and offer a deal.

"Right now, we can lock you up for one year. But if you testify against your partner, we will set you free and your partner will get 20 years in prison. If you both confess to the crime, we can avoid the cost of a trial and you both get 8 years."

Each prisoner has two strategies, confess or remain silent. However, the sentence that each gets depends upon the actions of the other.

Clyde's Decision	Bonnie's Decision: confess	Bonnie's Decision: Remain silent
confess	8 years each	Bonnie - 20 yrs Clyde goes free
Remain silent	Bonnie goes free Clyde - 20 yrs.	1 year each

OR you can use the **PAYOFF MATRIX**



In the real world, this dilemma is played out by real players. Once a negotiation is reached, each country must decide whether they should keep their agreement.

Iran's Decision	Iraq's Decision: High prod.	Iraq's Decision: Low prod.
High prod.	$40 billion each	Iraq - $30 billion Iran - $60 billion
Low prod.	Iraq - $60 billion Iran - $30 billion	$50 billion each

It can be used in the arms race…...

USSR's Decision \ U.S.'s Decision	Arm.	Disarm
Arm	Both at risk	US at risk USSR safe
Disarm	US safe USSR at risk	Both safe

Or with companies using common resources….

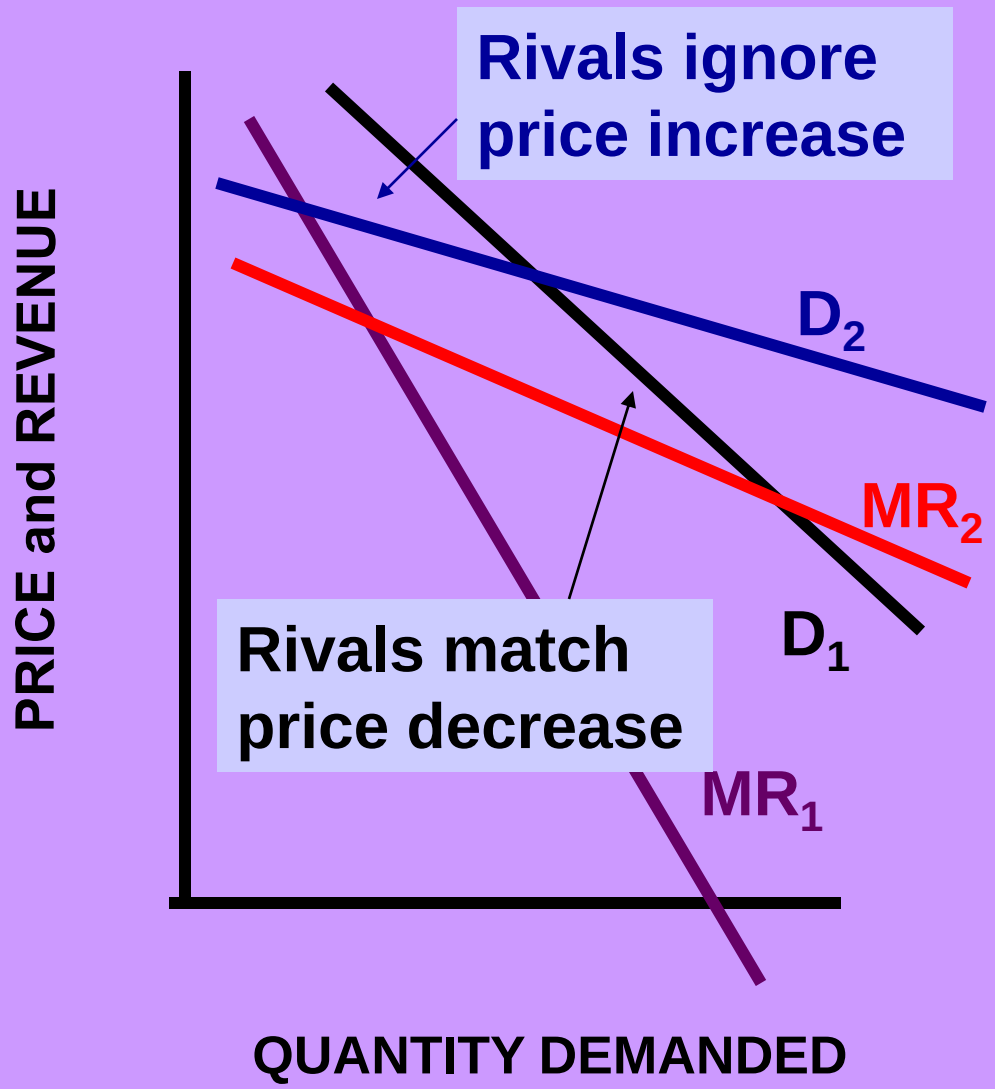
Arco's Decision	Exxon's Decision: Drill 2 wells	Exxon's Decision: Drill 1 well
Drill 2 wells	$4 million profit each	Exxon-$3m pr Arco-$6m pr
Drill 1 well	Exxon-$6m pr Arco-$3m pr	$5m profit each

The SHERMAN ANTITRUST ACT (1890) elevated agreements between oligopolists from an unenforceable contract to criminal conspiracy.

The CLAYTON ACT (1914) stated that if a person could prove that he was damaged by an illegal arrangement to restraint of trade, that person could sue and receive three times the damages.

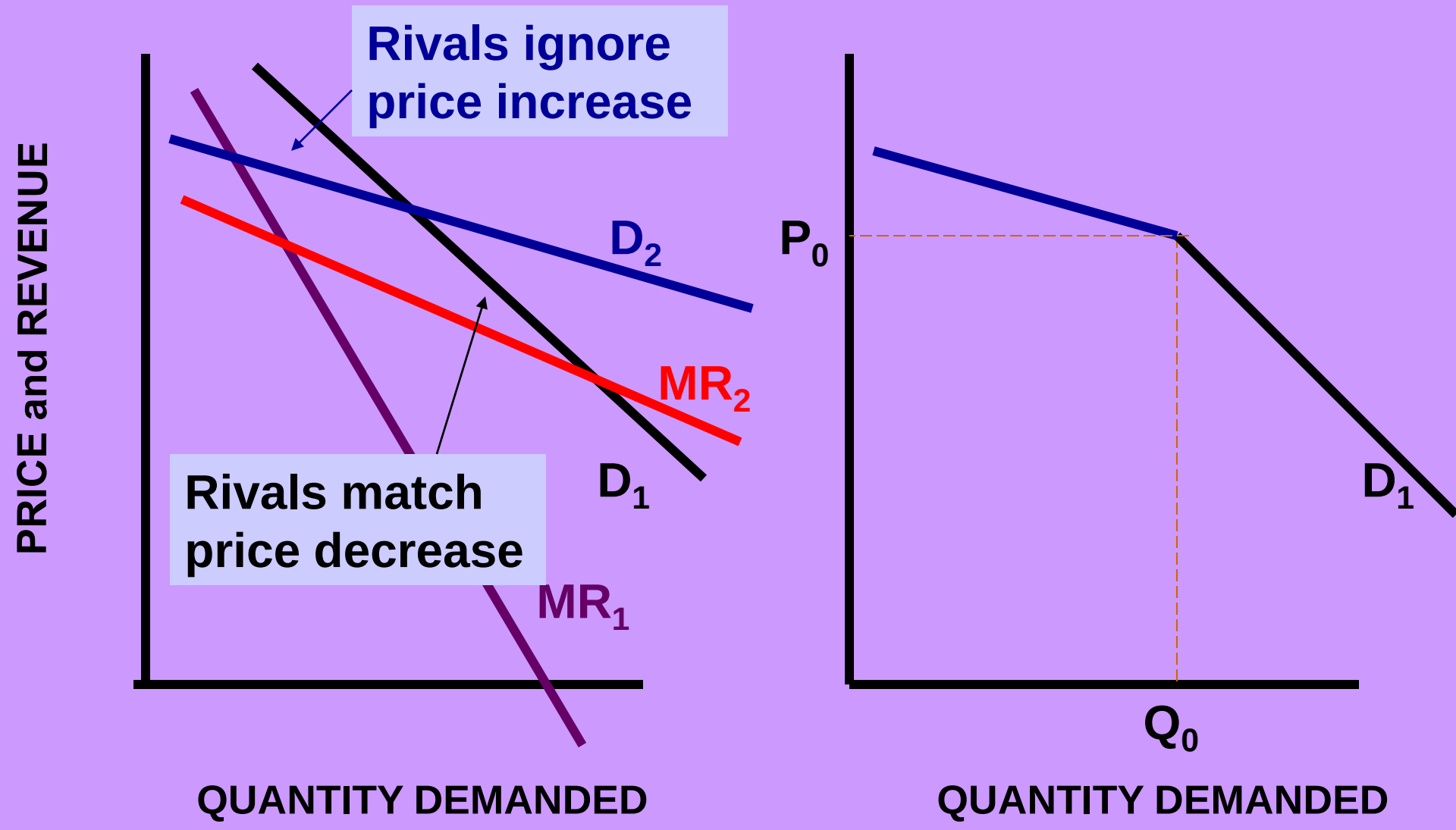
These laws are used to prevent oligopolists from acting together in ways that would make their markets less competitive.

The slope of a noncollusive oligopolist's demand and marginal revenue curves depends on whether its rivals match (D_1 and MR_1) or ignore (D_2 and MR_2) any price changes..

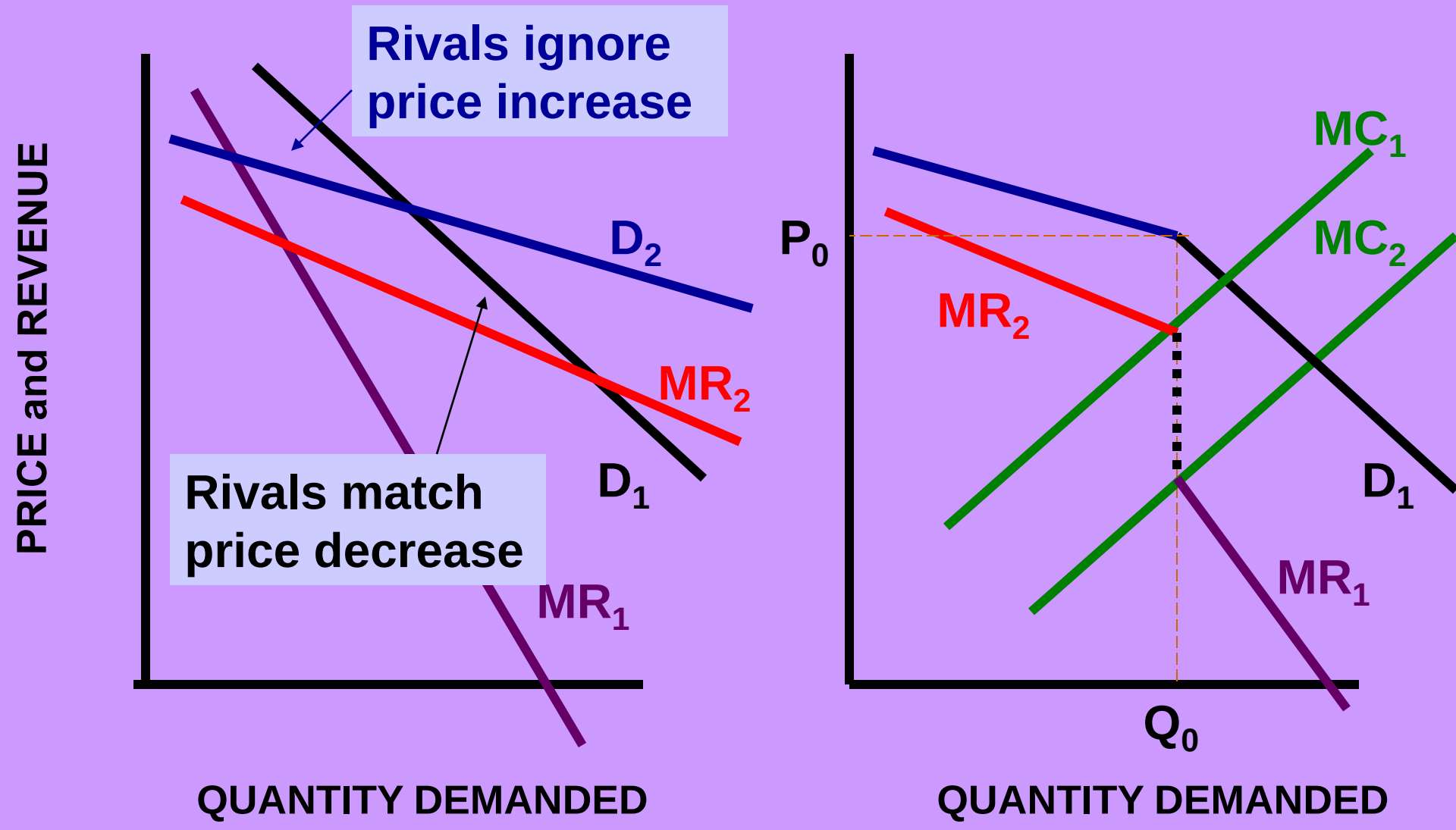


Assume the going prices are P_0 and Q_0.

The kinked demand curve shows that demand is highly elastic above the going price P_0 and much less elastic or inelastic below that price.



Because of the sharp difference in elasticity of demand above and below the going price, there is a gap in the marginal revenue curve.



It makes sense that rivals will probably follow a price cut, but ignore an increase.

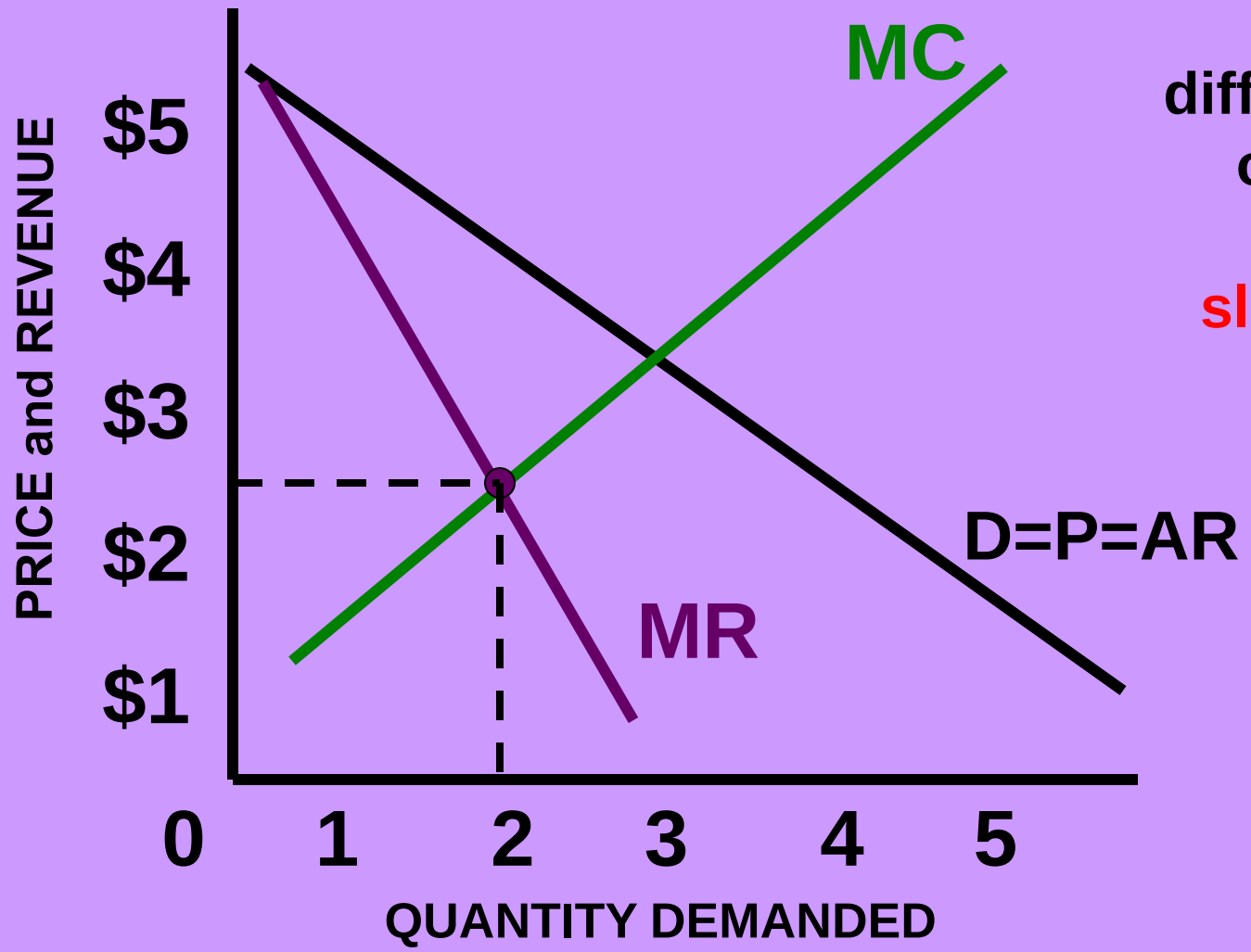
The kinked demand curve gives each oligopolist reason to believe that any change in price will be for the worse.

If it raises its price, many of its customers will desert it.

If it lowers its price, its sales at best will increase very modestly since rivals will match the lower price.

MONOPOLISTIC COMPETITION

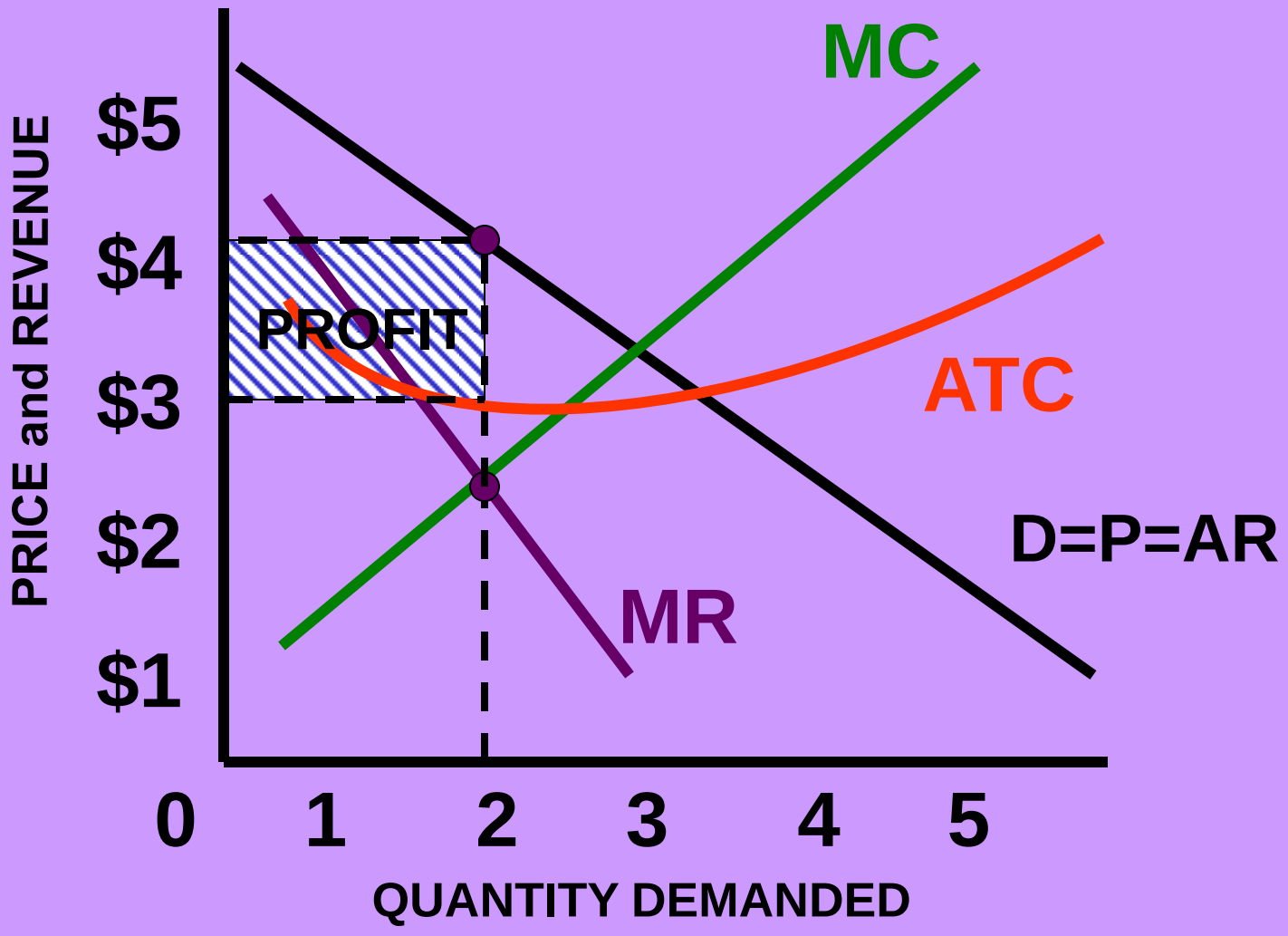
Each firm in a monopolistically competitive market is, in many ways, like a monopoly.



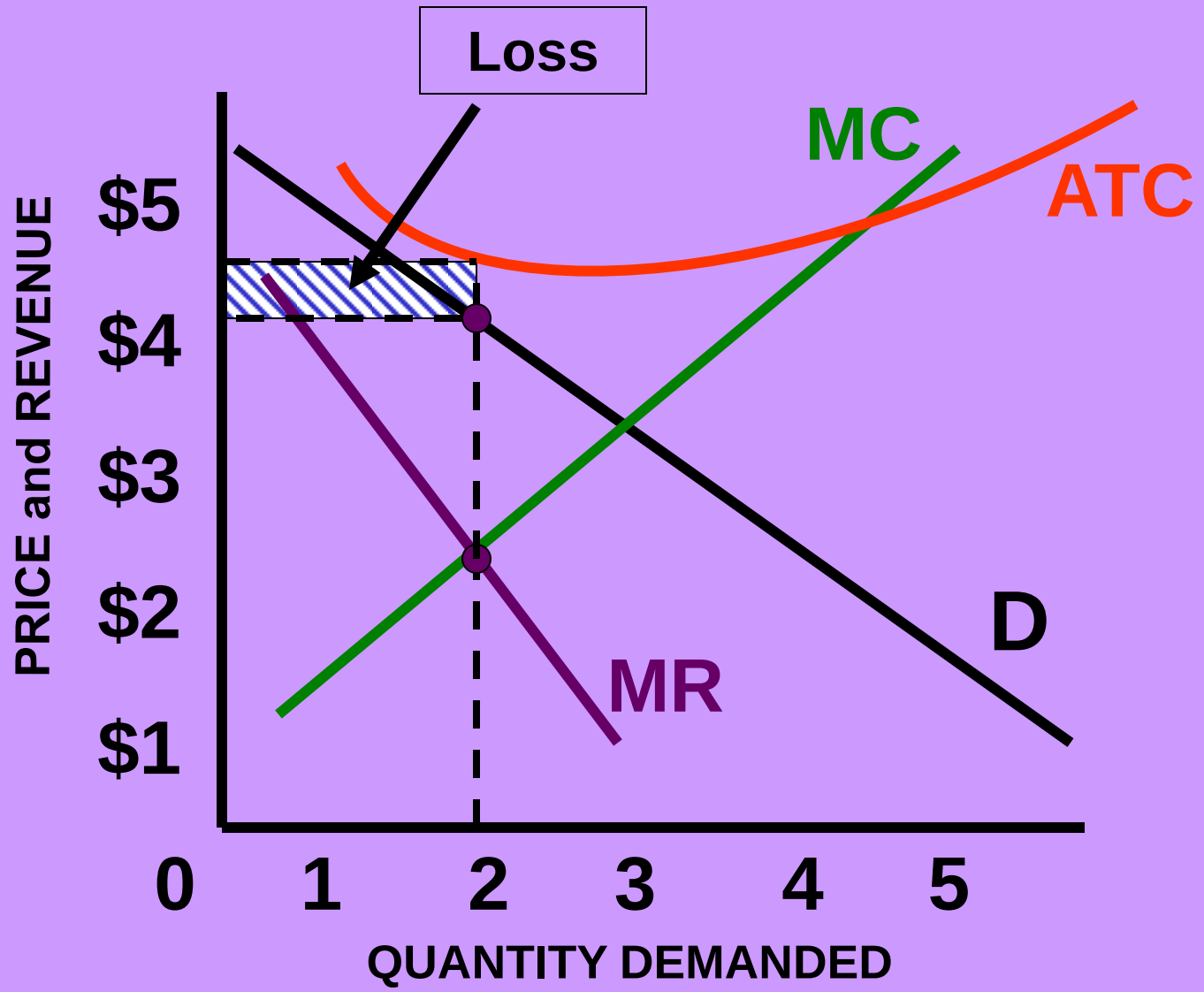
Because its product is different from the others, it has a downward sloping demand curve.

Profit maximization is at MC=MR

If price exceed ATC, the firm makes a profit (short-term).

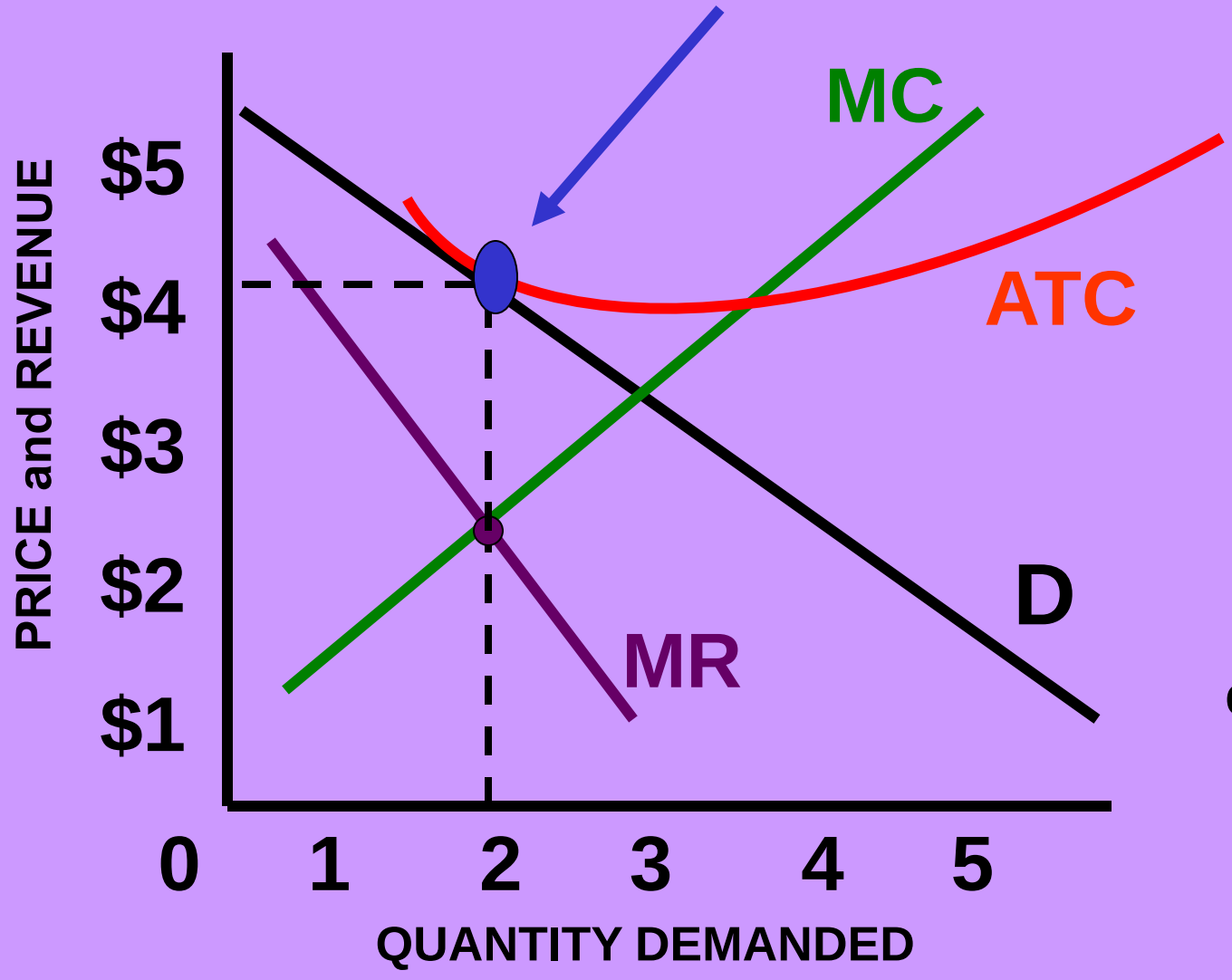


If ATC exceeds price, the firm takes a loss (short-term).



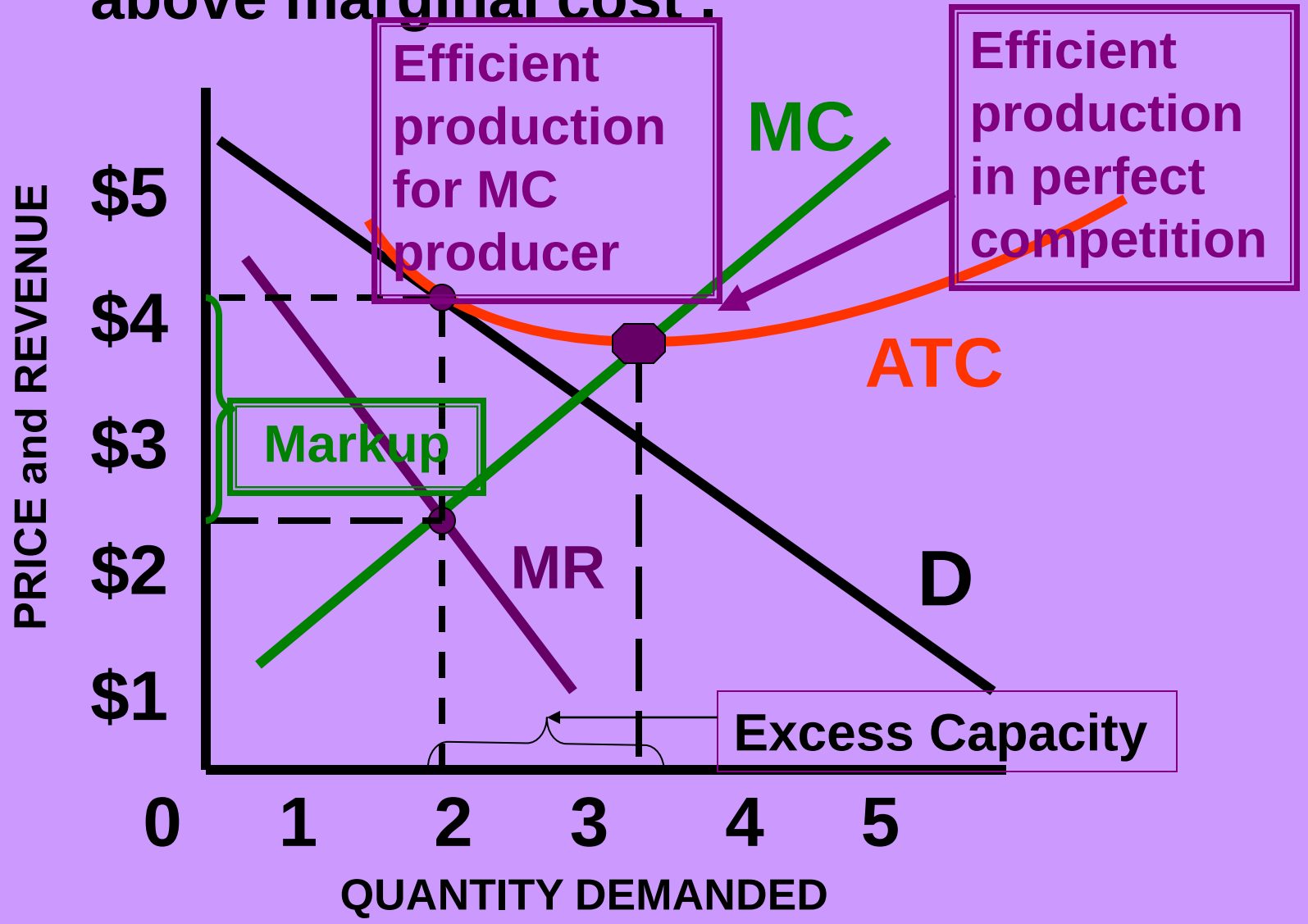
When firms are taking losses, there is an incentive to exit, causing a increase in demand for products from the firms staying in the market (and higher profit).

This process of entry and exit continues until the firms in the market are making exactly zero economic profit. (LONG-RUN EQUILIBRIUM)

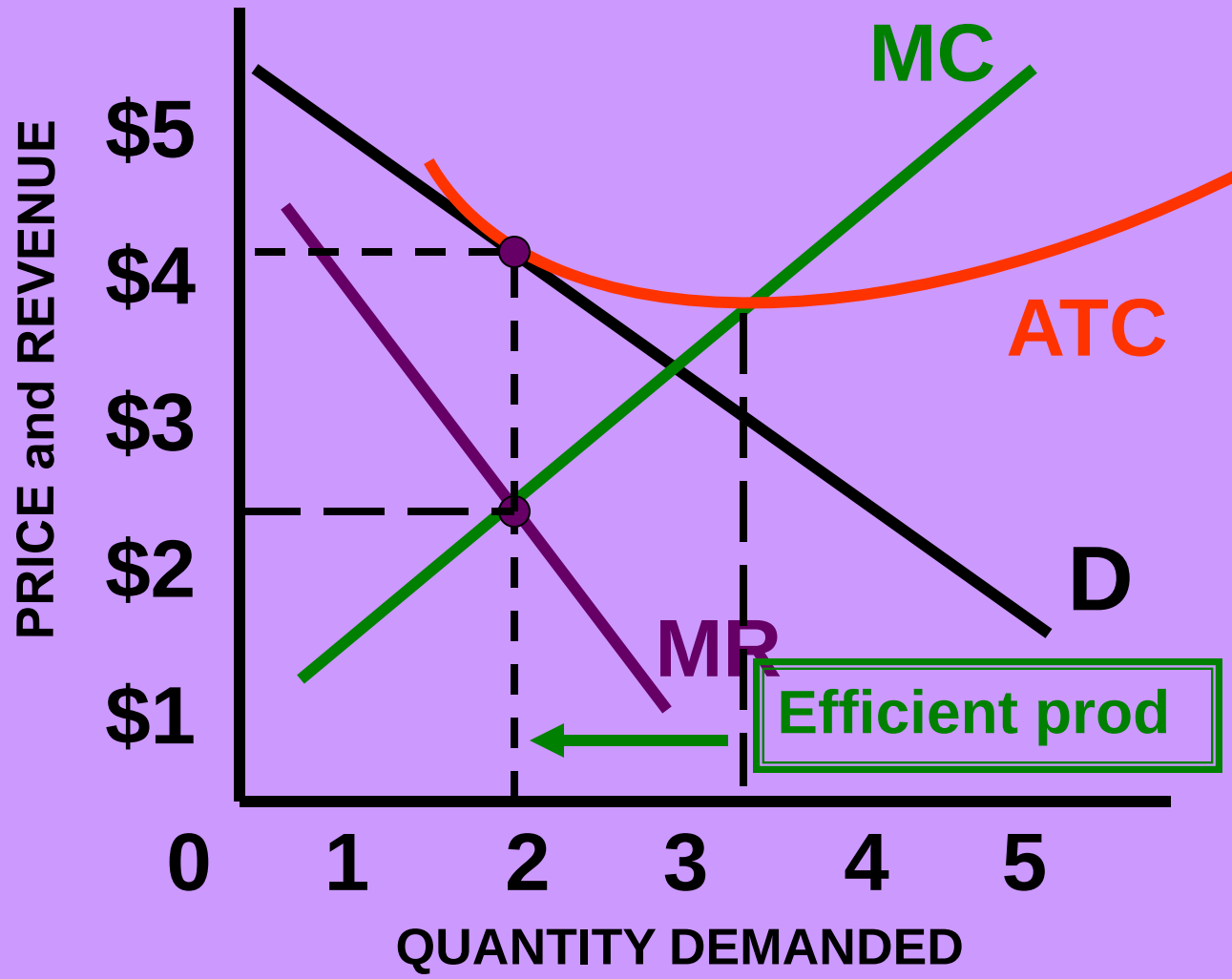


Once the market reaches this equilibrium, there is no incentive for new firms to enter, and no incentive for existing firms to exit.

Monopolistically competitive firms produce less than what is efficient. Also, price is above marginal cost .

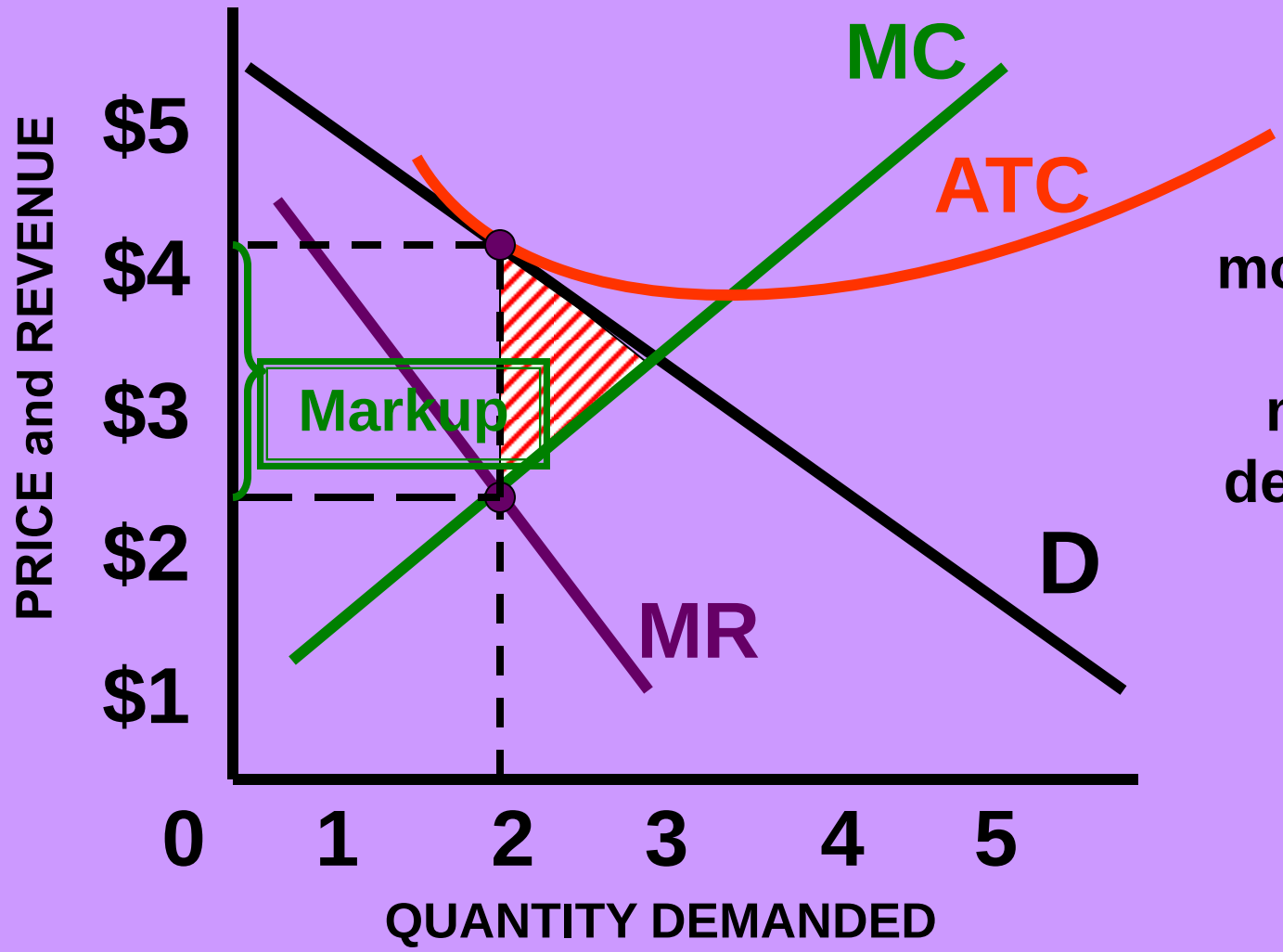


Because monopolistically competitive firms produce less than what is efficient, they are said to have EXCESS CAPACITY.



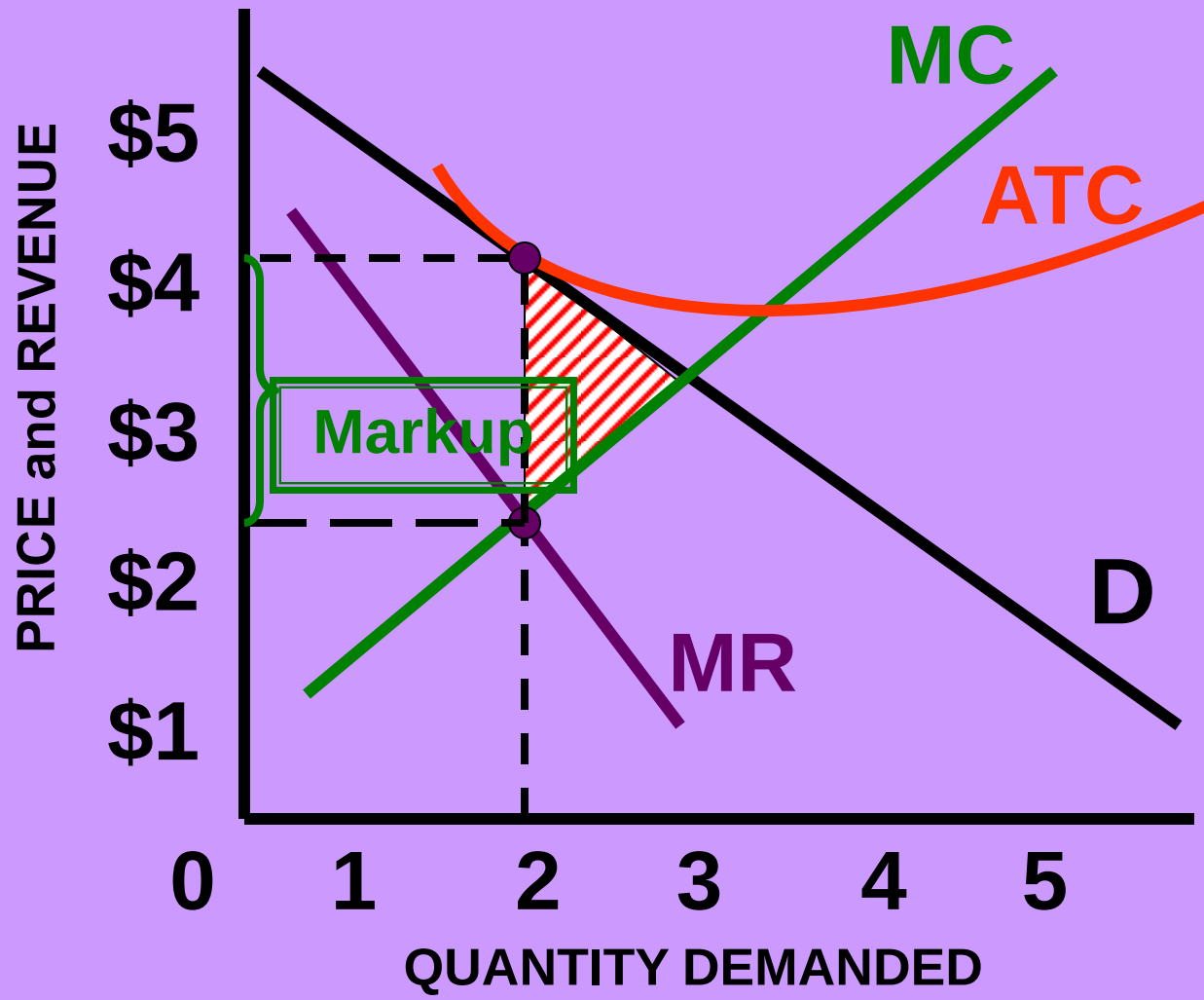
Monpolistically competitive firms, unlike a perfectly competitive firms, can increase the quantity they produce and lower the average total cost of production.

Once source of inefficiency is markup of price over marginal cost. Some consumers will be deterred from buying it.



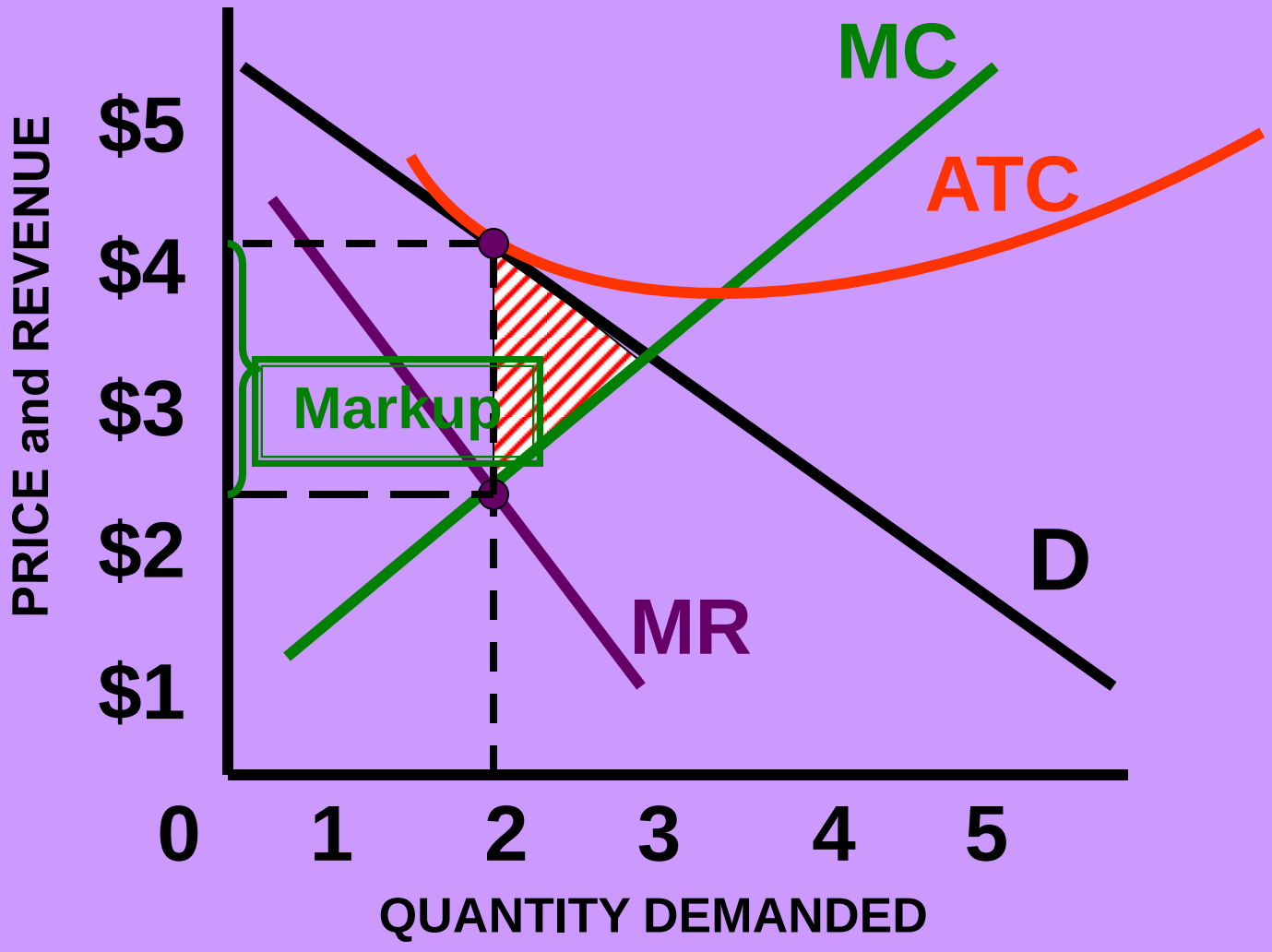
Thus, the monopolistically competitive market has the deadweight loss of monopoly pricing.

A key difference between Perfect Competition and Monopolistic Competition is the relationship between P and MC. In a competitive firm, MC = P. Therefore, selling one more unit would equal zero profit.



But in the monopolistically competitive firm, P exceeds MC because the firm always has the power to price. Selling one more unit for them represents additional profit.

Notice also that the monopolistically competitive firm has the deadweight loss of the monopoly.



Inefficiency of Monopolistic Competition:

1) **P over MC: not socially efficient, some people will not buy because of the markup, which causes deadweight loss.**
2) **Number of firms in the market may be too many or too little**

In what ways does ADVERTISING affect monopolistic competition?

Critics of advertising and brand names argue that firms use them to take advantage of consumer irrationality and to reduce competition.

Defenders of advertising and brand names argue that firms use them to inform customers and to compete more vigorously on price and product quality.

LONG-RUN

VS.

SHORT-RUN

SHORT-RUN: **when at least one factor of production is fixed.**

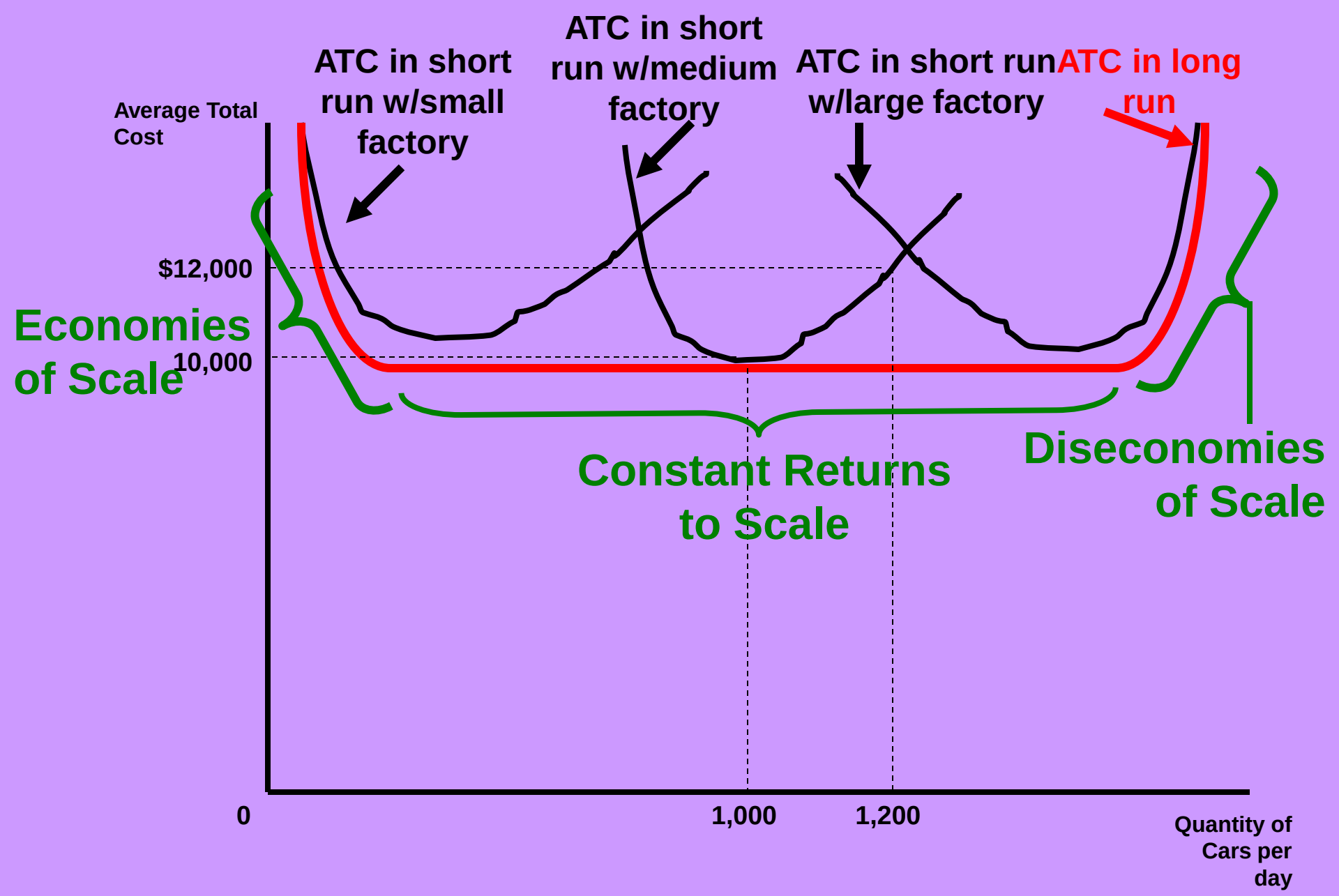
LONG-RUN: **when all the factors of production are variable.**

ECONOMIES OF SCALE

ECONOMIES OF SCALE: **When long-run average total cost declines as output increases.**

DISECONOMIES OF SCALE: **When long-run average total cost rises as output increases.**

CONSTANT RETURNS TO SCALE: **When long-run average total cost does not vary with the level of output.**


ATC in short run w/small factory
ATC in short run w/medium factory
ATC in short run w/large factory
ATC in long run
Average Total Cost
$12,000
10,000
Economies of Scale
Constant Returns to Scale
Diseconomies of Scale
0
1,000
1,200
Quantity of Cars per day

*Mankiw

CAUSES of economies or diseconomies of scale:

1) **Specialization of workers will be found in higher production levels of economies of scale.**

Compiled by:

Virginia H. Meachum

Coral Springs High School

Sources:

Principles, Problems, and Policies, by Campbell McConnell & Stanley Brue

Exploring Economics, by Robert Sexton

Principles of Economics, by N. Gregory Mankiw

Steve Reff, AP Economics Teacher, Tucson, Arizona

Notes by Florida Council on Economic Education and FAU Center for Economic Education

Notes by Foundation for Teaching Economics