Econ 200
Module 6
Lecture 14

UNIVERSITY of WASHINGTON

Outline

1. Monopolies
2. Monopoly Output and Prices
3. Welfare Effects of Monopoly

Reading: Ch 14.1-14.4

Administration

- Writing assignment 3 due Sunday. Choose an article about a topic covered in chapters 12, 13, 14, or 15.
- Articles about perfect competition (ch 13) should include some component that is new to this part of the class (e.g. firm entry/exit, or firm-level decisions in perfect competition).
- Midterm 2 is next week – Check Canvas for your exam date (should be the opposite of what you did for the last exam)

What is Monopoly and Why Do We Study It?

Monopoly is a market structure consisting of a firm that is the only seller of a good or service that does not have a close substitute.

We study monopolies for two reasons:

1. Some firms truly are monopolists.
2. Firms might collude in order to *act like* a monopolist.

Are There Really Monopolies?

Suppose you live in a small town with only one pizzeria. Is that pizzeria a monopoly?

1. It has competition from other fast-food restaurants.
2. It has competition from grocery stores that provide pizzas for you to cook at home.

Note: The pizzeria's unique position may afford it some *monopoly power* to raise prices, and obtain positive economic profit, even if it is not a true monopoly.

Why do monopolies exist?

A *monopoly* refers to a firm that is the only producer of a good or service with no close substitutes.

- A firm is a perfect monopoly if it controls the entire market.
- A firm has monopoly power if it can manipulate the price.

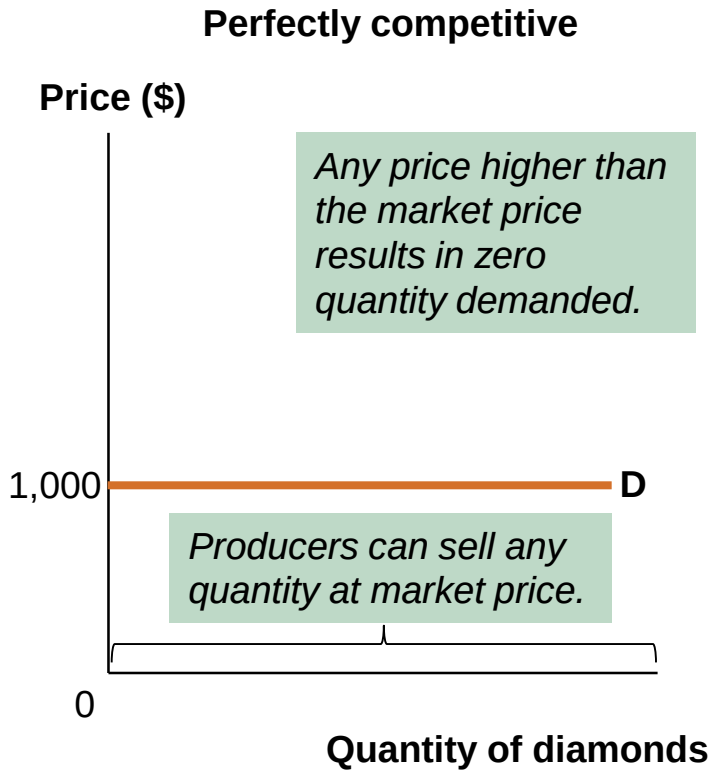
Monopolies exist because of barriers to entry that prevent other firms from entering the market.

Scarce resources	Economies of scale
Governmental intervention	Aggressive business tactics

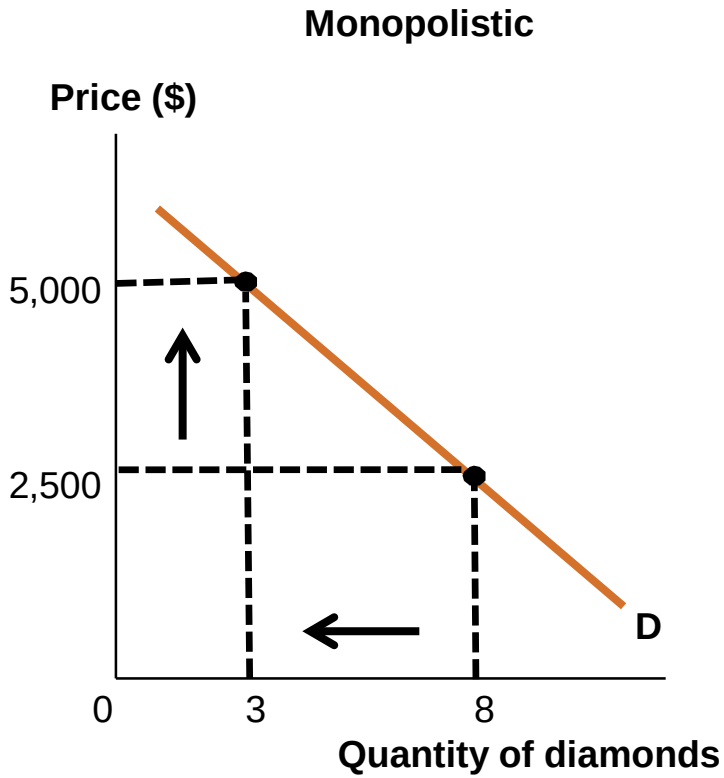
A *natural monopoly* refers to a market where a single firm can produce the entire market quantity demanded at a lower cost than multiple firms.

Monopolists and the demand curve

Monopolies differ from perfectly competitive firms with regard to their demand curves.



Firms cannot affect the market price through their production decisions.



Monopolists can affect the market price, but are constrained by the market demand curve.

Monopoly revenue

When a monopolist produces more of a good, the market price is driven down.

Therefore, producing an additional unit of output has two effects on total revenue:

1. Quantity effect: Total revenue increases.
2. Price effect: Total revenue decreases.

Total revenue might increase *or* decrease, depending on which effect is larger.

- In perfectly competitive markets, a firm can sell as much as it wants at the market price.
- In monopoly markets, a firm is the only producer and faces a downward sloping demand curve.

Monopoly Revenue

The table displays TR, AR, and MR.

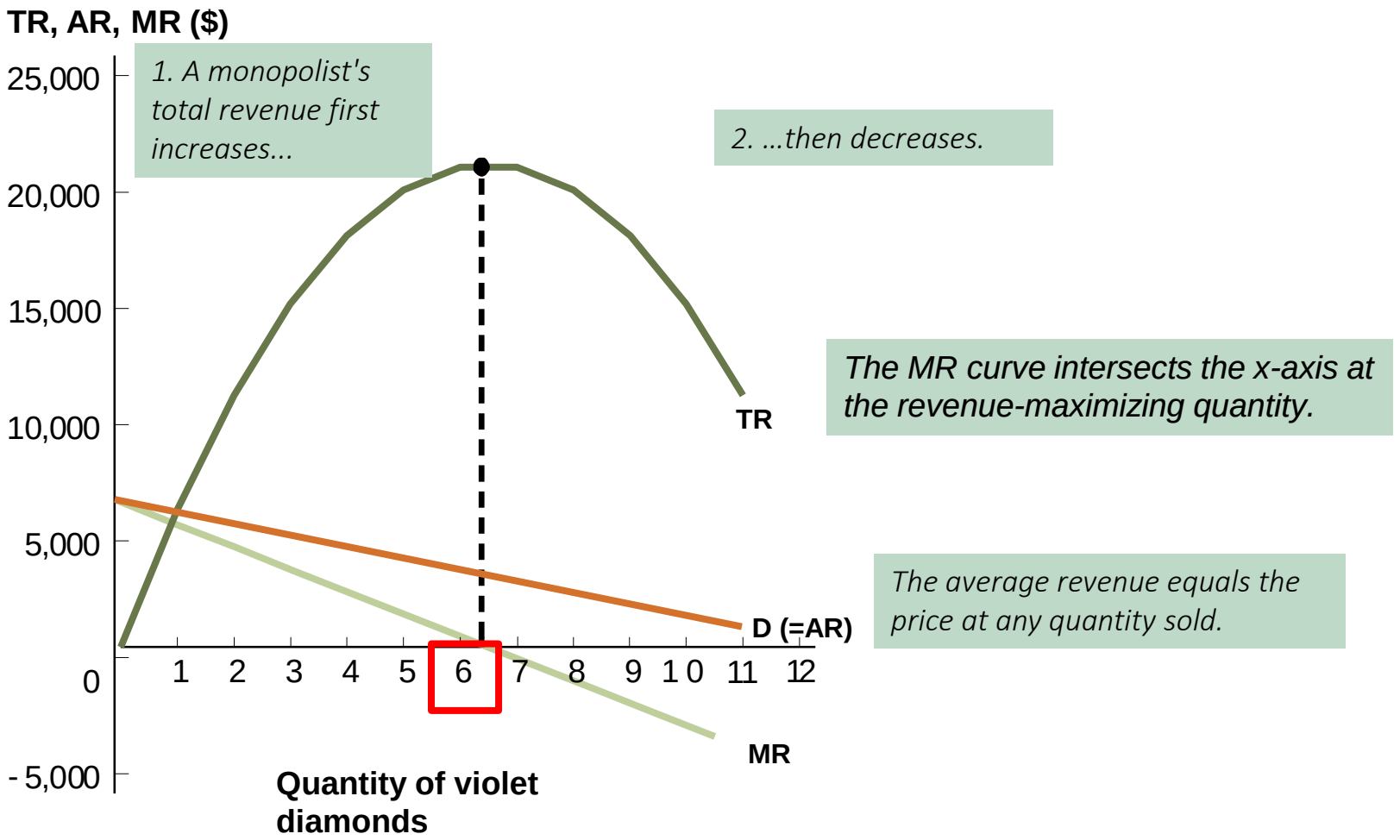
Total revenue is maximized when MR = $0.

Notice AR = P and are greater than or equal to MR.

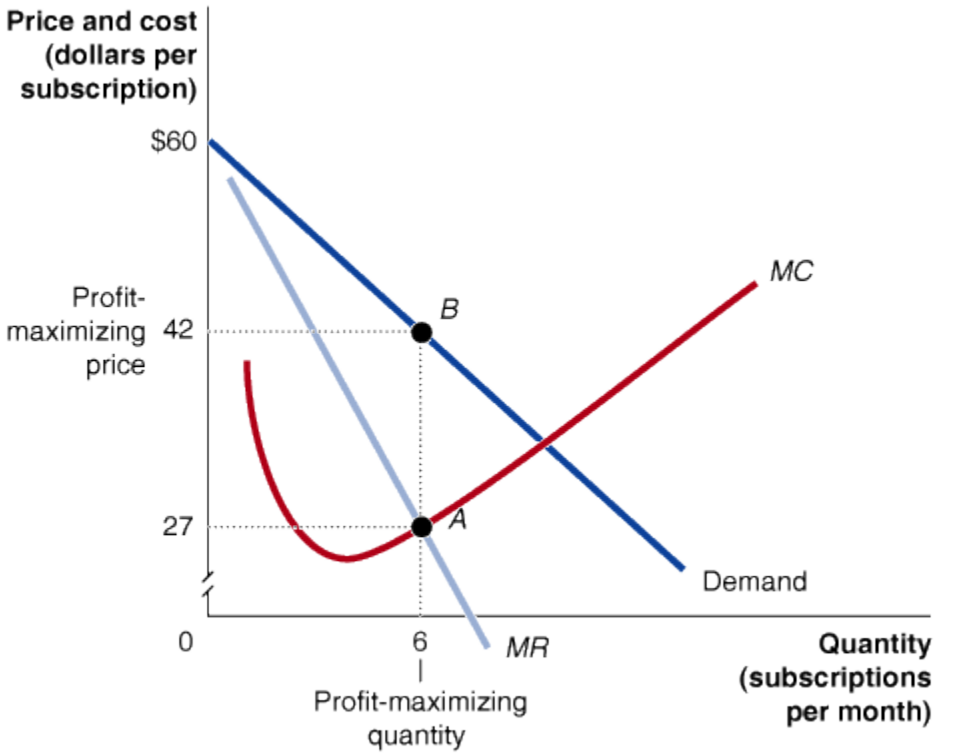
Price ($/diamond)	Quantity Sold (diamonds)	Total Revenue	Marginal Revenue	Average Revenue
6500	0	0		
6000	1	6000	6000	6000
5500	2	11000	5000	5500
5000	3	15000	4000	5000
4500	4	18000	3000	4500
4000	5	20000	2000	4000
3500	6	21000	1000	3500
3000	7	21000	0	3000
2500	8	20000	-1000	2500
2000	9	18000	-2000	2000
1500	10	15000	-3000	1500

Monopoly Revenue

The total revenue maximizing point is identified where MR = $0.



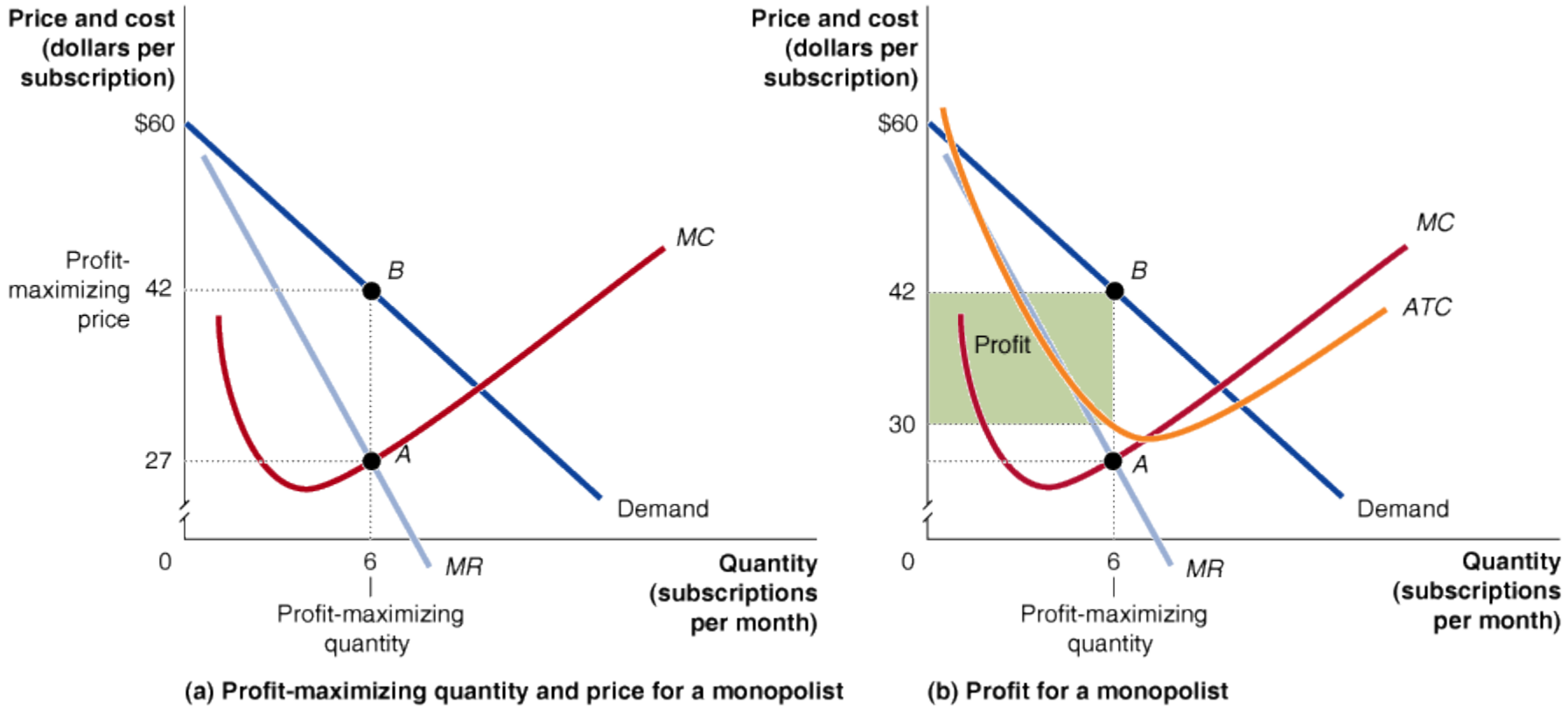
Profit-Maximizing Price and Output for a Monopoly



(a) Profit-maximizing quantity and price for a monopolist

Just like the perfect competitor, *MC* = *MR* determines quantity for a monopolist.

Price and Output for a Monopoly



At this quantity,

- The demand curve determines price, and
- The average total cost (*ATC*) curve determines average cost.

Profit is the difference between these (*P*–*ATC*), times quantity (*Q*).

Long-Run Profits for a Monopoly

Since there are barriers to entry, additional firms cannot enter the market.

- So there is no distinction between the short run and long run for a monopoly (except lower costs due to flexible inputs).

We expect monopolists to continue to earn profits in the long run.

Comparing Monopoly and Perfect Competition

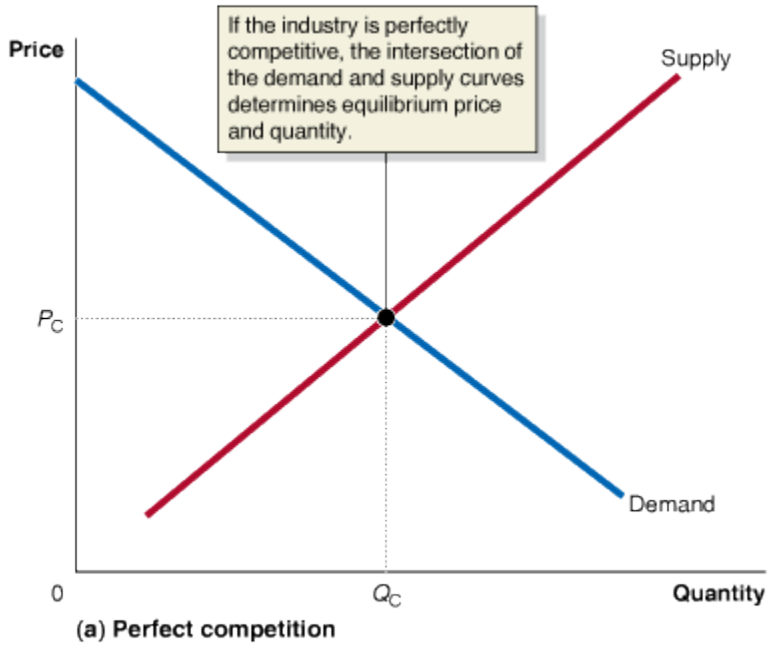
Suppose that a market could be characterized by either perfect competition or monopoly. Which would be better?

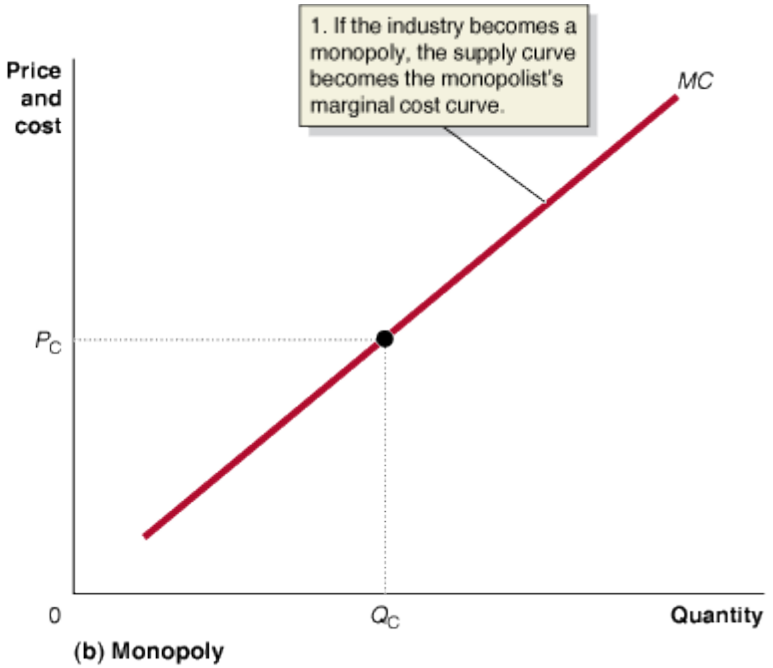
Imagine a single firm buys up all of the smartphones in the country.

What would happen to:

- Price and quantity traded?
- Consumer surplus?

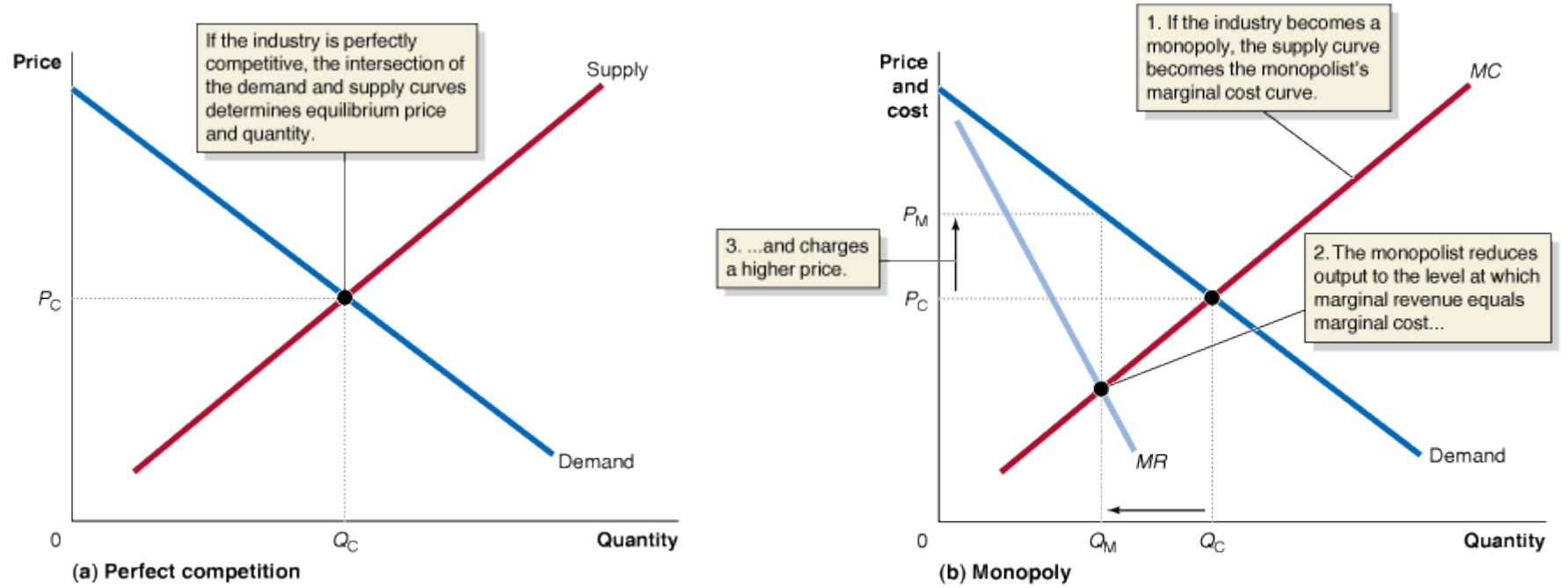
If a Perfect Competition Became a Monopoly…





Now the market is supplied by a single firm. Since the single firm is made up of all of the smaller firms, the marginal cost curve for this new firm is identical to the old supply curve.

… Quantity Will Fall and Price Will Rise



The new firm maximizes market profit, producing the quantity where *MC* = *MR*.

This quantity (Q_M) is lower than the competitive quantity (Q_C)…

… and P_M is higher than the competitive price, P_C.

Measuring the Efficiency Losses from Monopoly

Fewer smartphones will be traded at a higher price.

- Consumer surplus will fall (with the higher price).
- Producer surplus must rise, otherwise the firm would have chosen the perfectly competitive price and quantity.

Could the increase in producer surplus offset the decrease in consumer surplus?

- No!

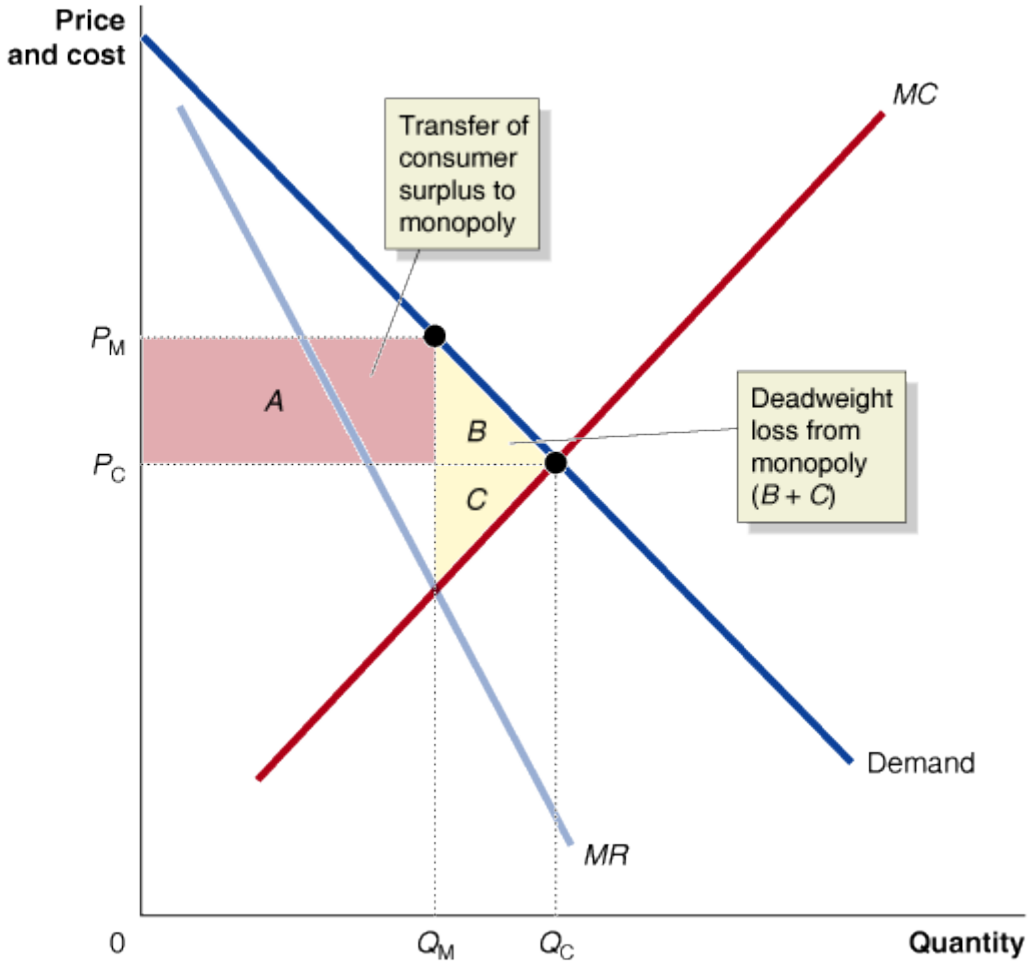
The Inefficiency of Monopoly

With the higher monopoly price, CS decreases by *A*+*B*.

PS falls by *C*, but rises by *A*; an overall increase.

Area *A* is a transfer of surplus.

But areas *B* and *C* are lost surpluses: deadweight loss.



How Large Are the Efficiency Losses?

There are relatively few monopolies, so the loss of economic efficiency due to monopolies must be relatively small.

→But many firms have **market power**: the ability of a firm to charge a price greater than marginal cost.

Still, economists estimate that overall, the loss of efficiency in the United States due to market power is probably less than 1% of total U.S. production—about $500 per person annually.

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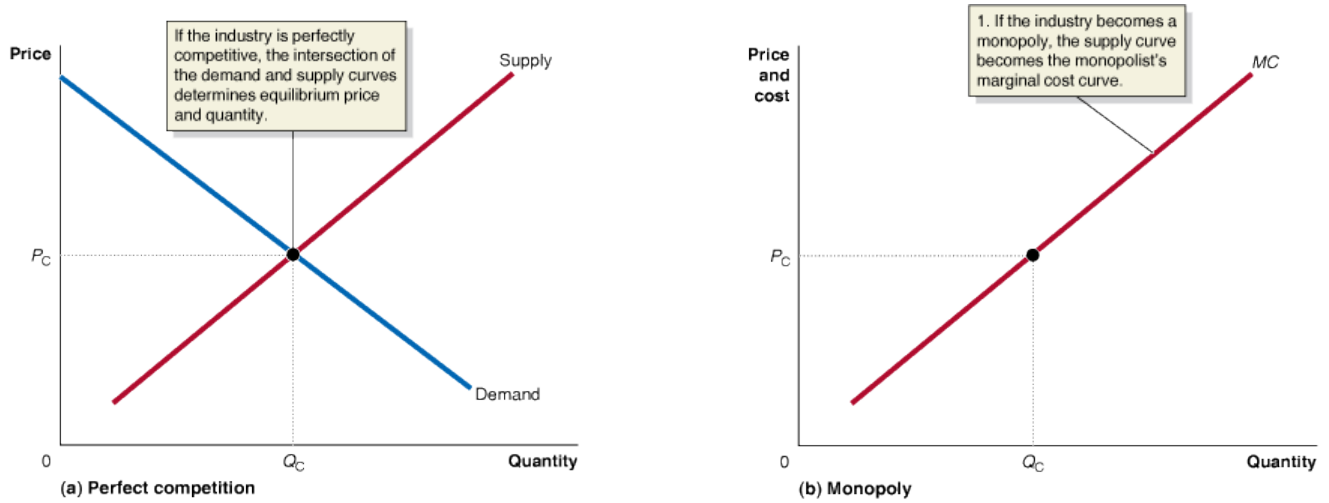

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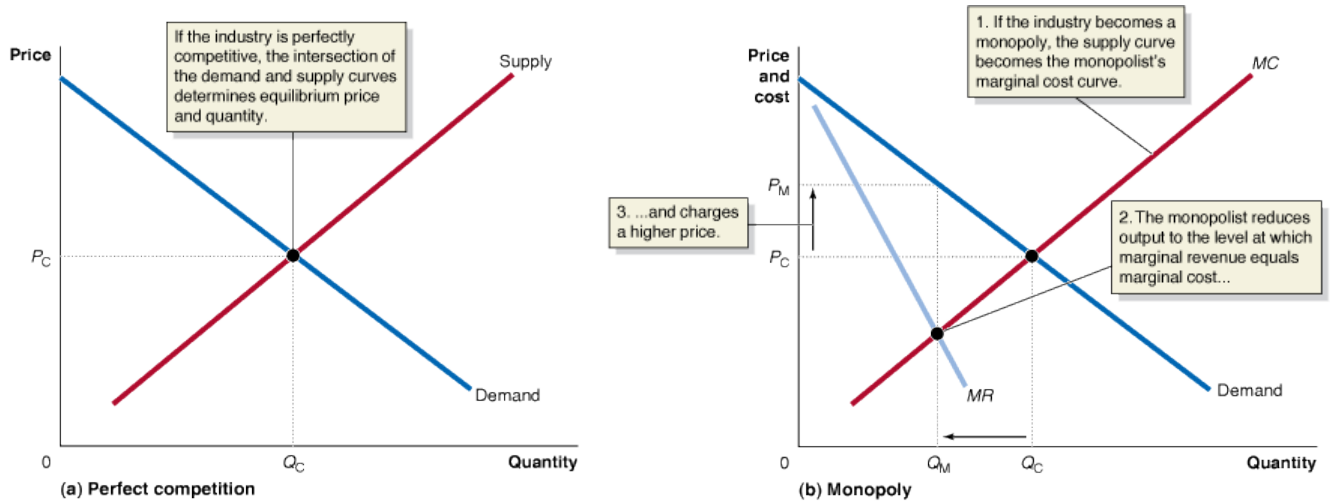

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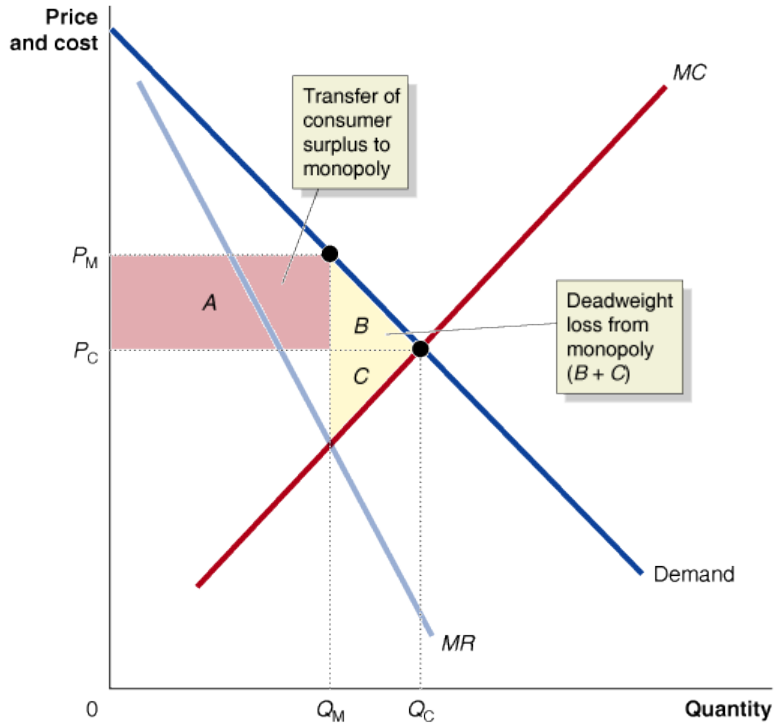

If marginal revenue for a firm slopes downward, which of the following is true?

a. The firm must cut the price of all items sold to sell a larger quantity.
b. The firm must cut the price of additional items in order to sell more than they have already sold.
c. The firm is unable to adjust price in order to adjust quantity sold.
d. The firm must increase the price to sell a larger quantity.

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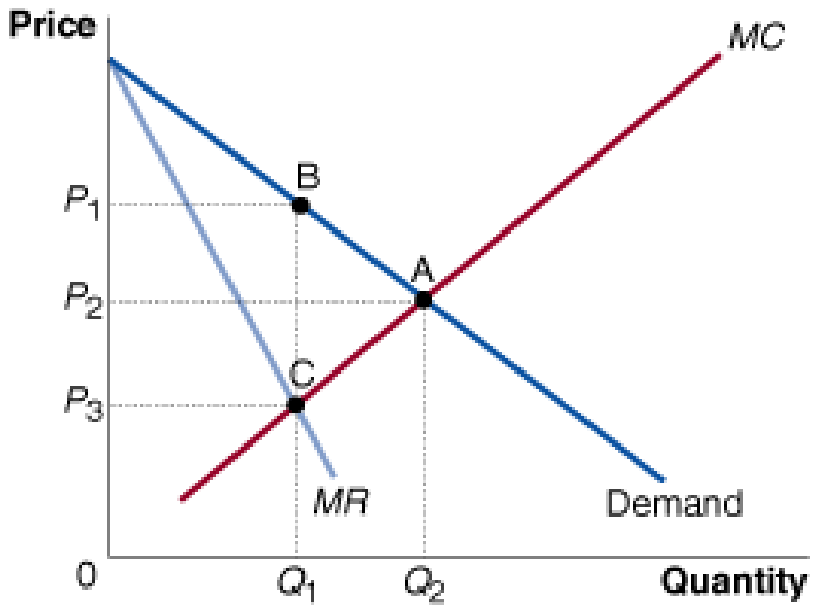
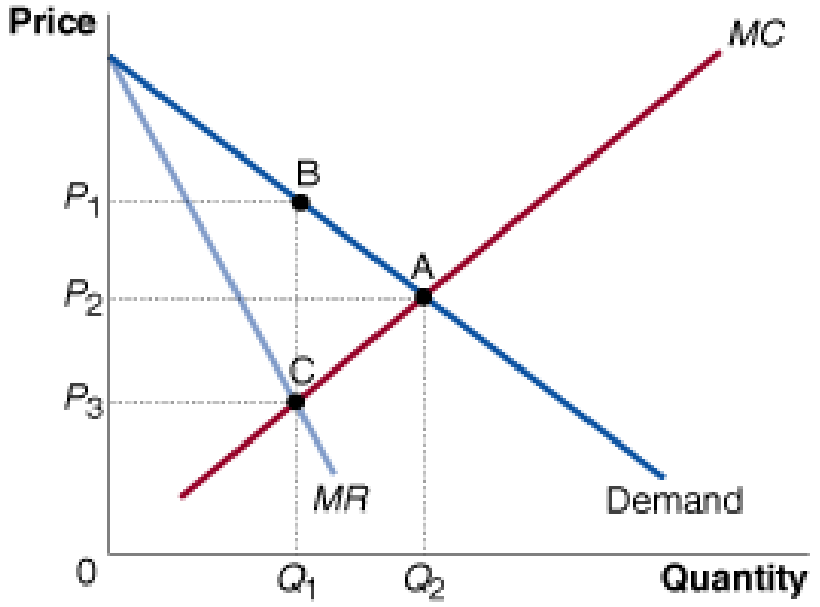
Which point shows the price and output for a monopoly?



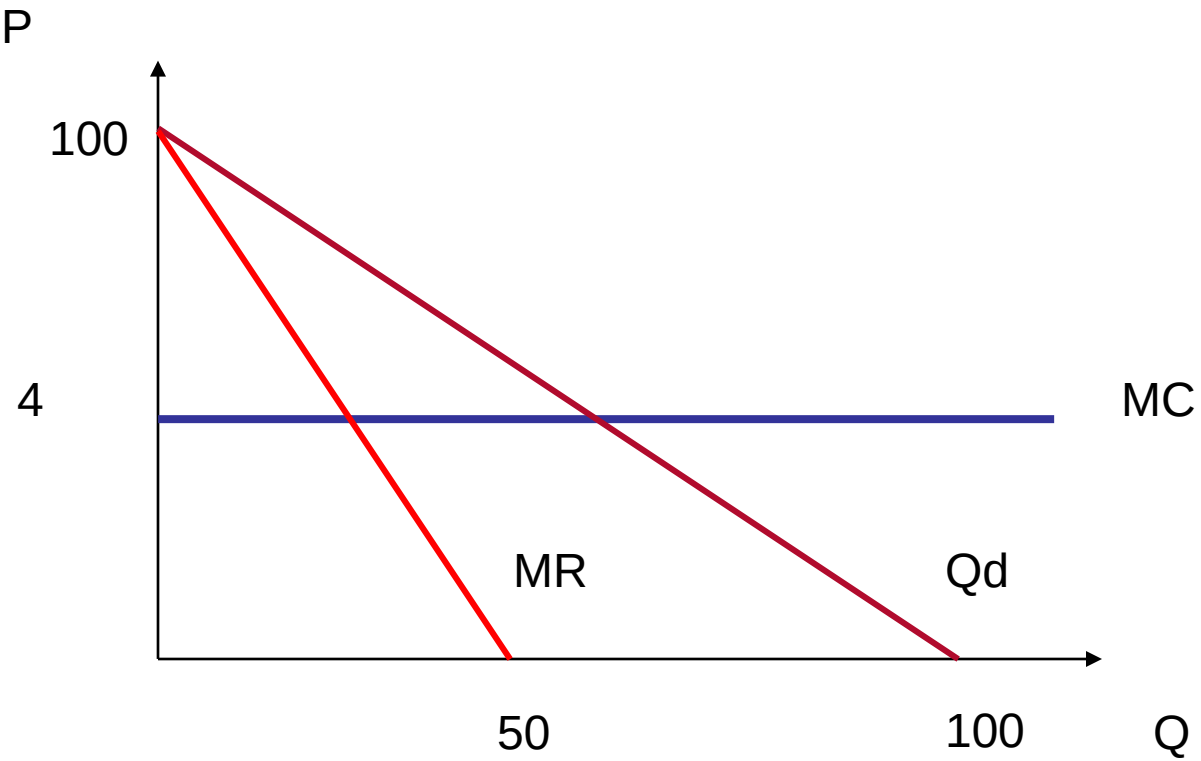
a. A
b. B
c. C
d. None of the above.

Which point shows the price and output for a monopoly?



b. B

Calculate the profits of a monopoly facing demand Qd=100-p (MR=100-2Q) and MC=AC=4 (TC=4Q).



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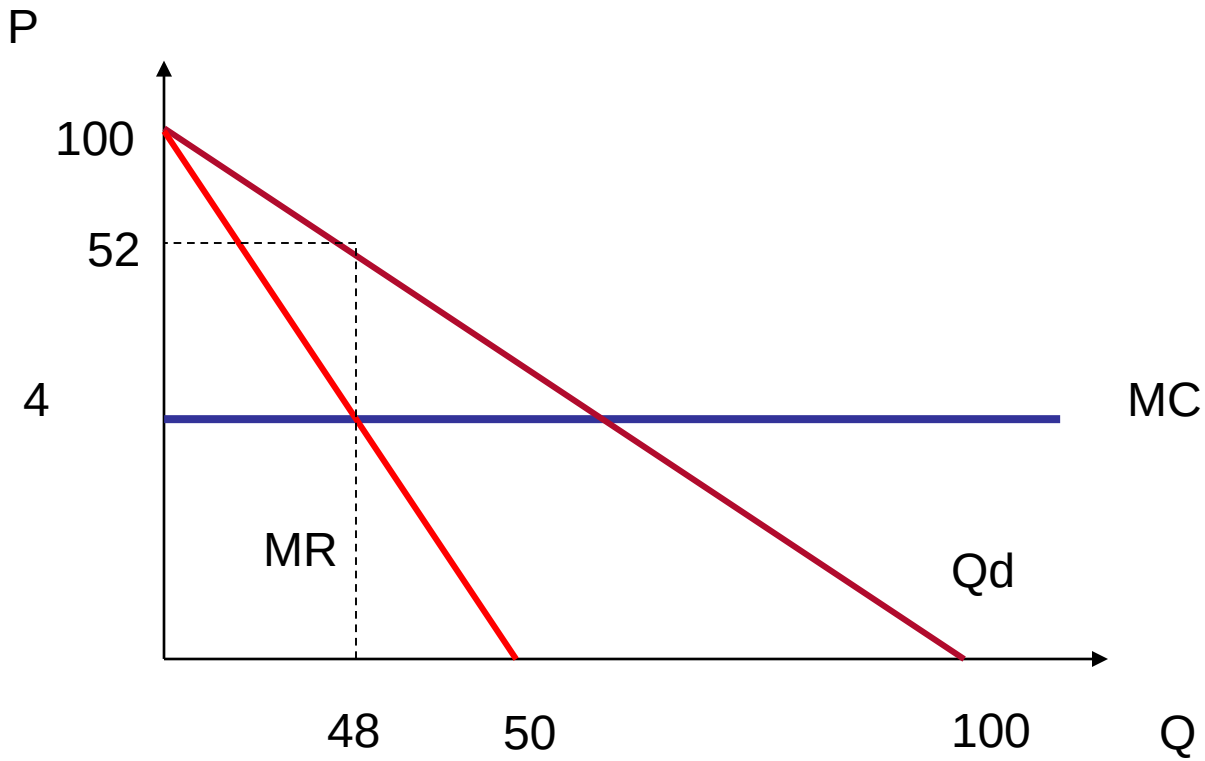

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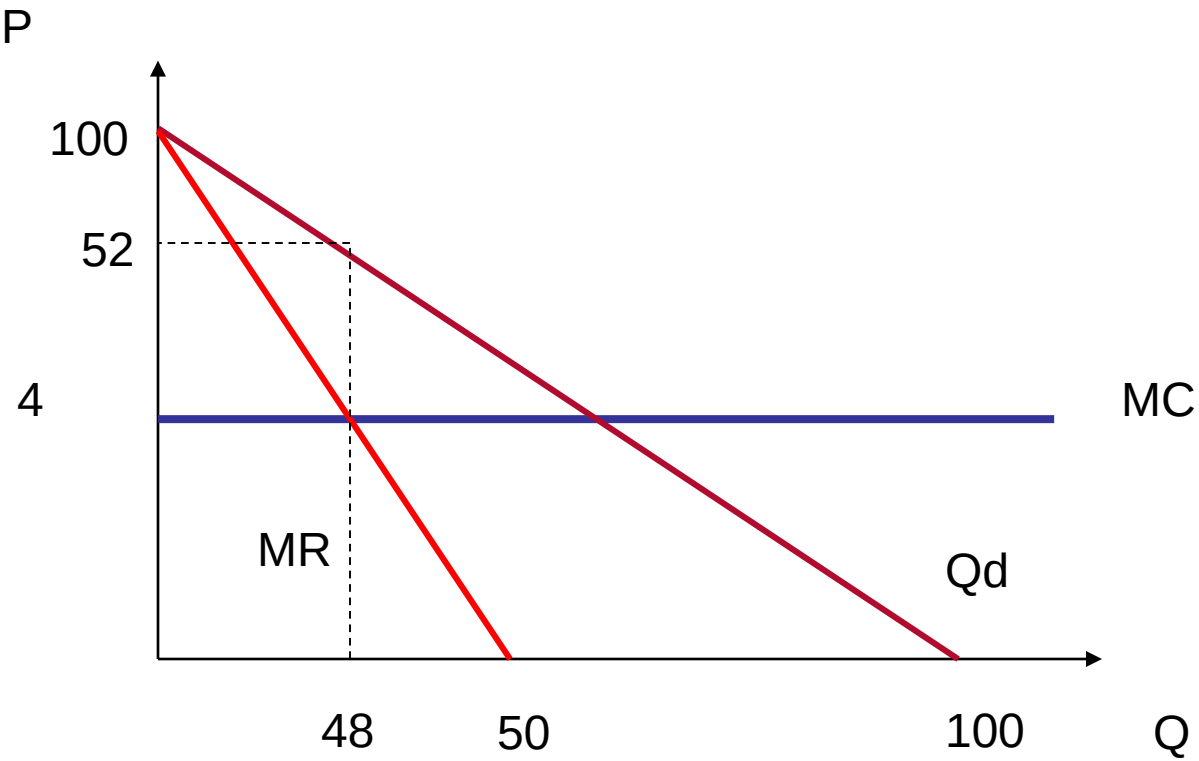
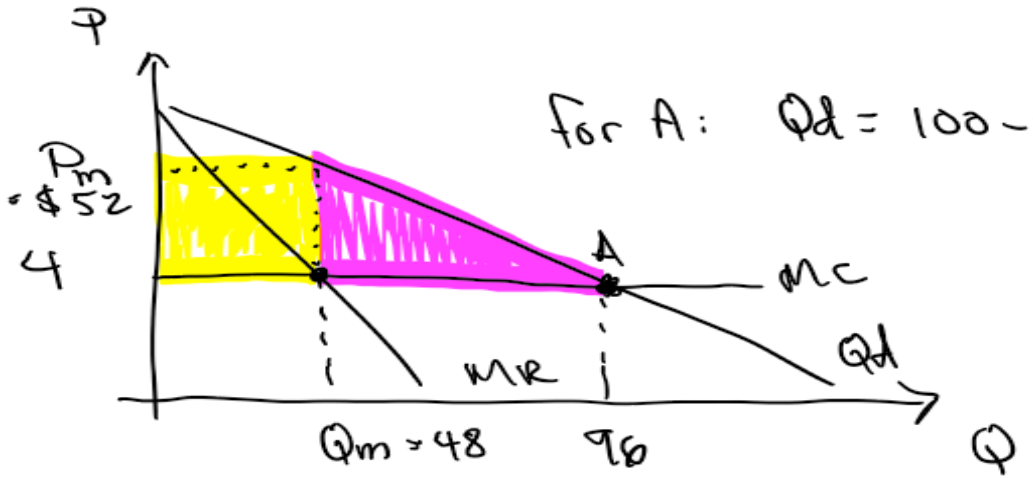


Profits = P*Q-AC*Q = 52*48 – 4*48 = **2304**

$Q_d = 100 - P$

$P = 100 - Q$

$MR = 100 - 2Q$



for A: $Q_d = 100 - 4 = 96$

$MC = MR$

$4 = 100 - 2Q$

$2Q = 96$

$Q = 48$

$P = 100 - Q = 52$

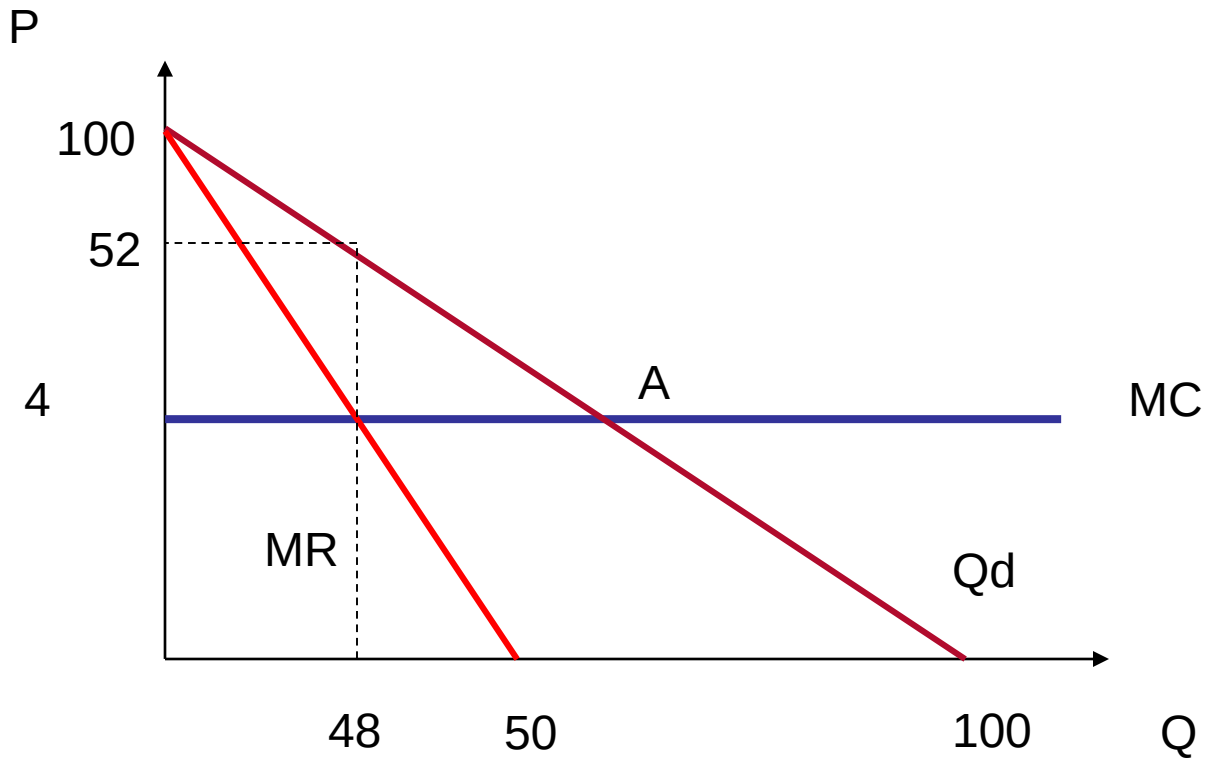
$Profit = (P - AC) \cdot Q$

$= (52 - 4) \cdot 48$

$= 48 \cdot 48$

$= \$2304$

Calculate the deadweight loss from the monopoly when Qd=100-p (MR=100-2Q) and MC=4 (TC=4Q). (Hint: Point A is the perfectly competitive equilibrium point)



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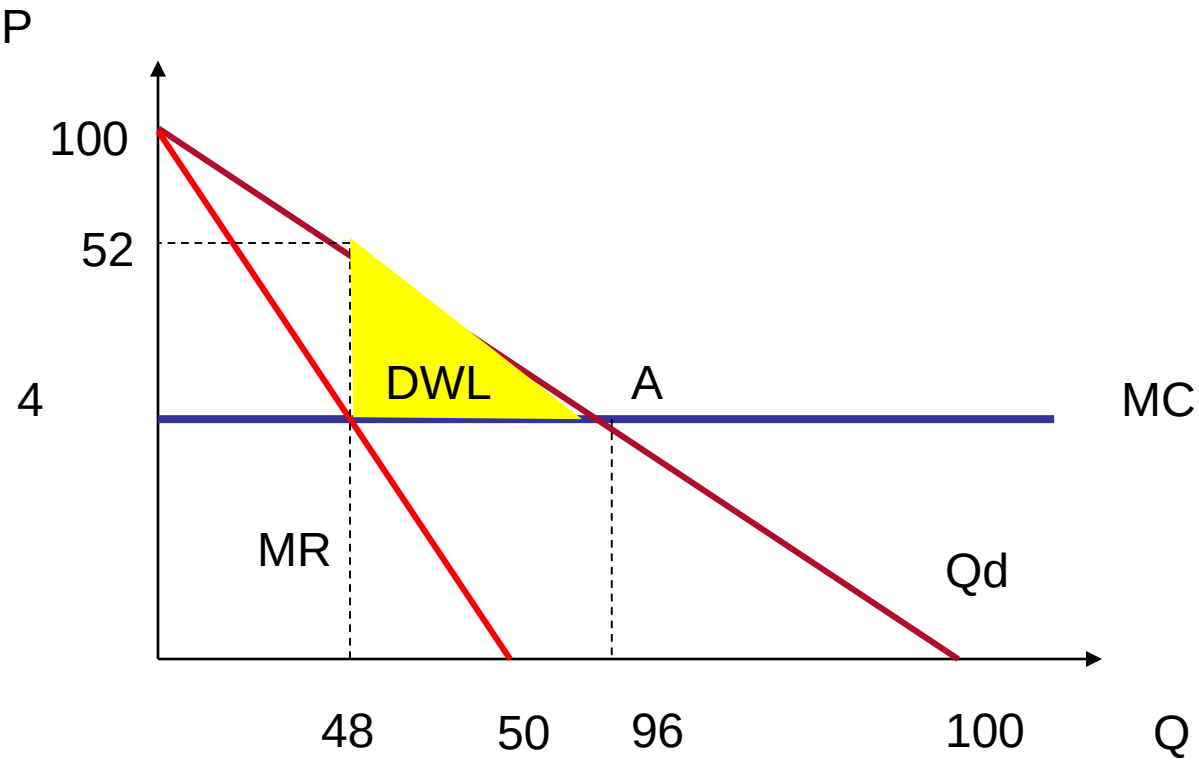

DWL= ½ (52-4)*(96-48)=1152