Lecture 11(i)

- Midterm results posted next week
- Sections this week will go over worksheet at Canvas on monopoly.
- HW 9 due next week.
- Thanksgiving week schedule (next week)
  - Monday: class as usual for large lectures
  - Wed: no class
  - No discussion sections week of Thanksgiving

Lecture

1. Marginal Revenue of a Monopolist

2. Profit-Maximizing Monopoly

3. Inefficiency of Monopoly

Monopolist and Competitive Firm

How are they similar?
- Both try to maximize
  profit = revenue - costs
- So both set quantity where
  marginal rev. = marginal cost
  (MR = MC)

How different?

- When competitive firm sells more
  unit, price stays the same
  o Marginal Revenue = Price
  o Same as saying price taker
- When monopoly firm sells more
  price falls
  o Marginal Revenue < Price

Lemonade Stand

Suppose can sell
- 1 at P = $1.00
- 2 at P = 50¢

Sell second one, cash register rings
up 50¢. Is this MR?

No!!!!
  Sell one: Revenue = $1.00
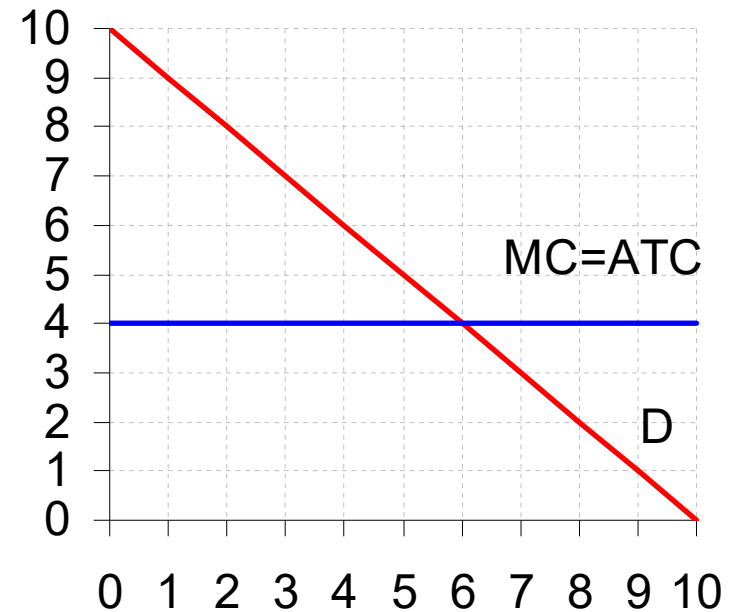 Sell two: Revenue = .50 +.50
  = $1
So marginal revenue = 0!

(Note: this is uniform price monopoly.
Things are different if can price
discriminate)

Widget Monopoly in Econland

S1-S3 and S5-S10 deceased.

S4 has monopoly.

One change: now she can produce as many widgets as she wants at ATC = 4. (So MC = 4 too)

If perfect competition, then
- P = 4
- Note P = MC
- Q = 6

But with monopoly, need to do something different.

Let's figure out Marginal Revenue

Marginal Revenue of S4

Q	P	Revenue	MR
0	10		
1	9		
2	8		
3	7		
4	6		
5	5		
6	4		
7	3		
8	2		
9	1		

Rules for MR of linear demand
- vertical intercept same as demand
- horizontal intercept is halfway

Picture is all you need for this class.
But if you like an equation…

Rev = P×Q

 = (10-Q)×Q

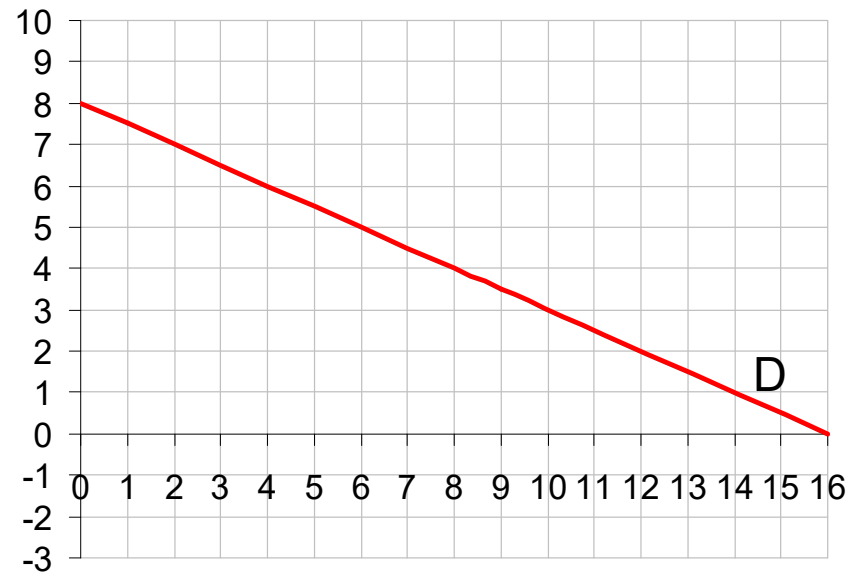=10Q – Q^2

Marginal Revenue is slope
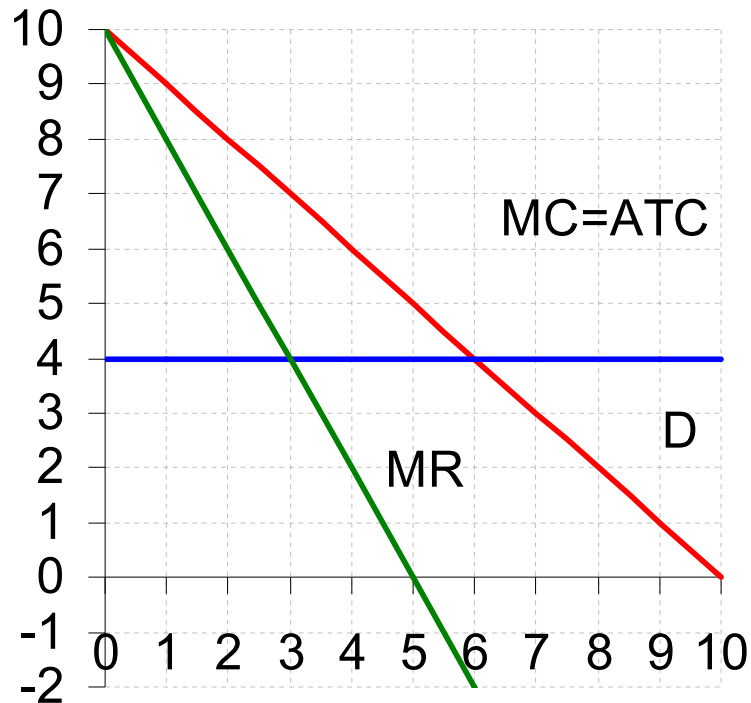
MR = 10 – 2Q

What if demand looked like this?

So let's go back to S4's problem
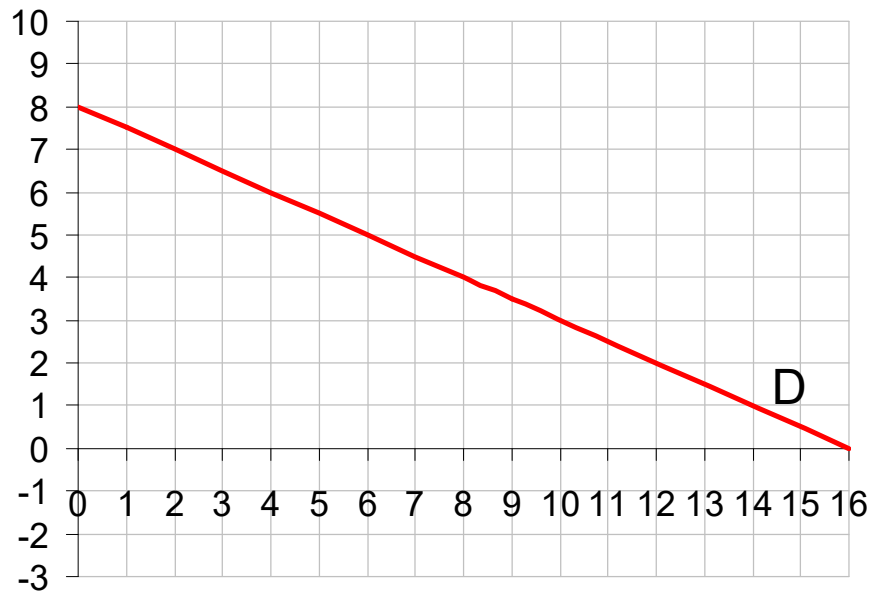and figure out what she should do.

Put in MC to find optimal output

- Profit maximizing Q = 3
- Price that goes with this is $P^M=\$7$
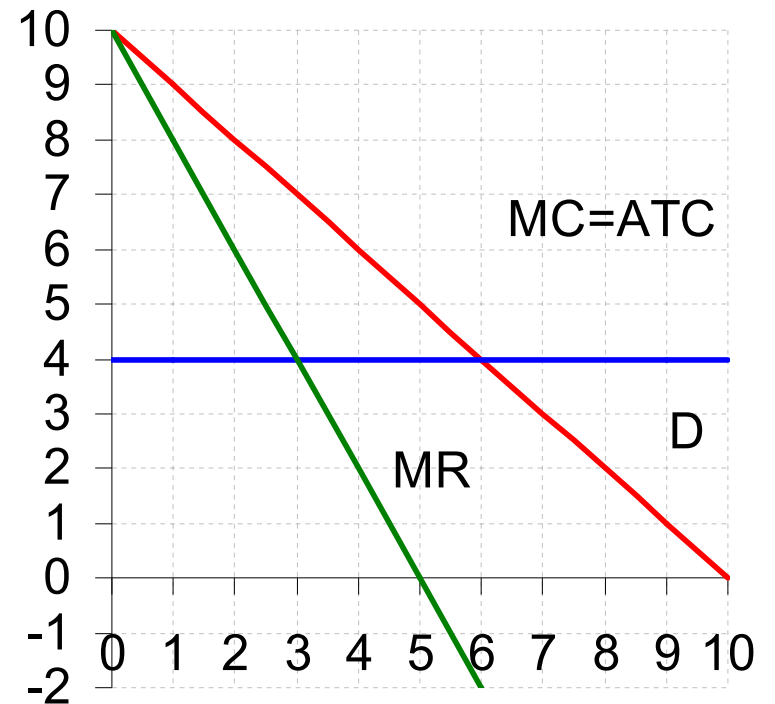- Profit = [P – ATC]*Q=[7 – 4]*3=9
- See it on graph

Check that this is profit maximizing:

Q	P	Rev	Cost	Profit
1	9			
2	8			
3	7			
4	6			
5	5			

What if demand looked like this and MC = 2? Figure out the monopoly price and quantity.

Inefficiency of Monopoly

MC=ATC

MR

D

Just like a $3 tax,
But monopolist gets tax revenue!

	Comp.	Monopoly	Change
Q	6	3	-3
P	4	7	+3
CS	18	4.5	-13.5
PS	0	9	9
TS	18	13.5	-4.5

1. Monopoly results in a loss of CS of 13.5 from the higher price.

2. Part is a transfer from consumers to the firm. Called a monopoly rent

3. Part of consumer loss is deadweight loss of -4.5.
Too little output (condition 3 violation).

First Welfare Theorem does not hold when we have monopoly.

4. Can have additional social costs:
Monopoly Rent Seeking Behavior
Efforts to secure a monopoly

Example in Econland. Suppose give monopoly to first person in line. Suppose time costs $1 hour. In equilibrium one person gets in line for 9 hours. All the monopoly rent is dissipated

In real world:

- Use of resources like the legal and patent system to keep out rivals.
  - Time spent on lawyers is social waste (opportunity cost)

- Entry of too many real estate agents.
  - Try to get the monopoly rent of too high a commission. But may end up selling only a few houses a year.
  - Wait. Where is the monopoly? Control of Multiple Listing Service (MLS)