Module 3 - Q1

- Looking at the firm
- Price is the benefit (for each unit you receive P)
- Supplied quantity is the cost (You have a cost to produce each unit)
- ↑P ⇒ ↑Benefit ⇒ You want to produce more

Module 3 Q2

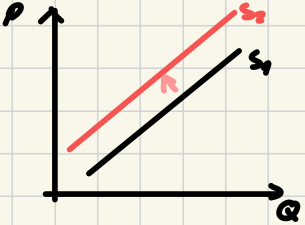
- Profit. $p \cdot q - Vc(q) - F$
  - $p \cdot q$: revenue
  - $c(q)$: Variable cost
  - F : Fixed Cost (rent)
- Optimal Condition: P = Marginal Cost
  - Fixed costs should not matter (You are going to pay anyway to produce something)
- However, if F increases too much, profit can be negative. Hence you might not produce anything

Module 3 - Q 3

- We are looking at the supply of cars.
- Is it an increase in the price of cards?

No, so the supply will shift

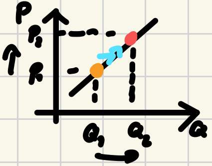
- Its an increase in the price of an input ⇒ ↑ cost. Hence, you will supply less



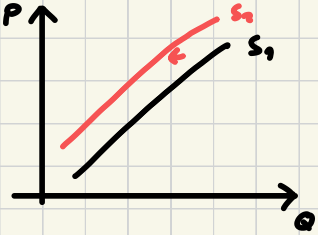
Module 3 Question 4

- We are analyzing the supply of Ravioli and Tortellini
- Ravioli
  - Is it an increase in price of Ravioli?

Yes



- Tortellini
  - Is it an increase in tortellini prices? No ⇒ The supply will shift
  - The firm chooses between producing Ravioli or Tortellini. If $\uparrow P_R$ ⇒ ↑ benefit producing ravioli ⇒ will produce less Tortellini (Higher opportunity cost)



Module 3 → Question 5

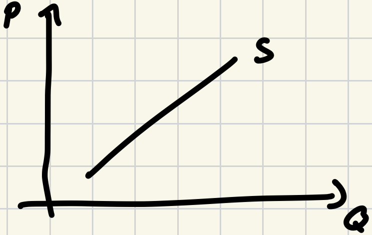
- Supply Function

$Q = 3 + 0.5P$

- Inverse supply Function

$Q = -3 + 0.5P \Rightarrow Q + 3 = 0.5P \Rightarrow 2(Q + 3) = P \Rightarrow$

$P(Q) = 2Q + 6$



Module 3 - Question 6

- For each price P, now we subtract 3 units

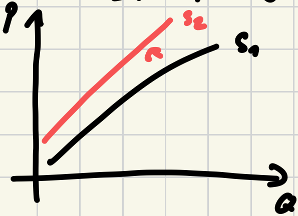
P	Q	Q'
20	7	4
22	8	5
24	9	6

$$\Rightarrow Q' = -3 + 0.5P - 3$$

$$Q' = -6 + 0.5P$$

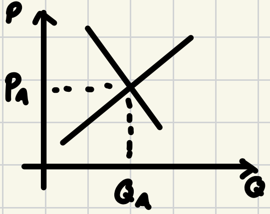
$$Q' + 6 = 0.5P$$

$$P = 2Q' + 12$$

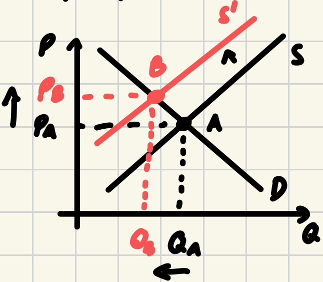


Module 4 - Question 1

- EQuilibrium ⇒ Demand = Supply
  - Demand - Decreasing
  - Supply - Increasing



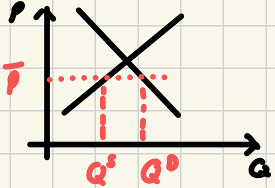
- ↑ Input prices ⇒ Affect Directly the Firms or the Consumers? Firms
- ↑ Input prices ⇒ ↑ cost of producing Q.



Lower Quantity
Higher prices

Module 2 - Question 2

Suppose the government fix a maximum price for rice

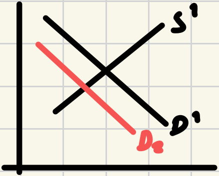


People want to consume more
Firm will supply Less
} Demand Excess

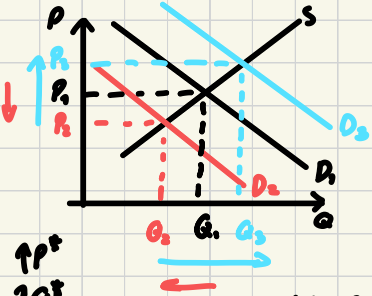
- No Control ⇒ Prices and quantity will converge to eq.

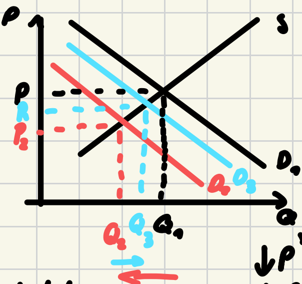
Module 4 Question 3

- ↑ interest rate
  - People choose between buying a house or saving money with interest rate r
  - If r' > r people want to save more and buy less houses (substitute goods)



- Local companies increasing hiring
  - People now have more money. They would like to buy more houses.





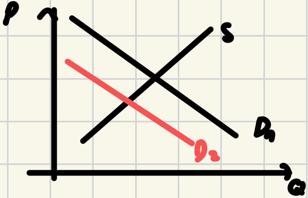
↑P*
↑Q*

↓P*
↓Q*

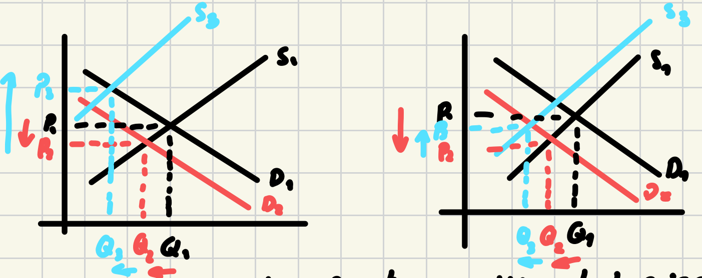
We cannot talk about the final result

Extra: You are looking at the equilibrium of gasoline and there was a decrease in prices for electric cars and an increase in international oil prices. what is the equilibrium

- ↓P electric cars:
  - People buy more cars that don't require gasoline ⇒ Lower demand for gasoline



- ↑ P oil:
  - Higher cost for an input to produce gasoline
  - Higher cost to produce gasoline



We cannot say anything about prices
But the quantity will decrease

Module 4 Question 5

1st way to solve it

$Q_d = 20 - 2p \qquad Q_s = p - 4$

$Q_d = Q_s$

$20 - 2p = p - 4 \Rightarrow 20 + 4 = p + 2p \Rightarrow 24 = 3p$

$p = 8$

$Q = p - 4 \Rightarrow Q = 8 - 4 = 4$

2nd way

$$Q^d = Q^s = Q$$

$$Q = 20 - 2P \quad ①$$

$$Q = P - 4 \quad ②$$

$$① - ② \Rightarrow Q - Q = 20 - 2P - (P - 4)$$

$$0 = 20 - 2P - P + 4$$

$$0 = 24 - 3P$$

$$3P = 24$$

$$P = 8 \Rightarrow Q = P - 4 = 8 - 4 = 4$$

Question 4 b