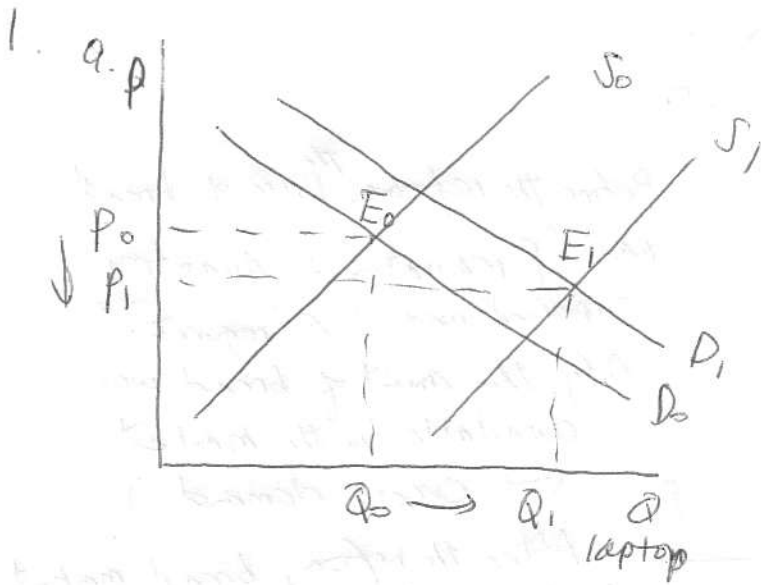


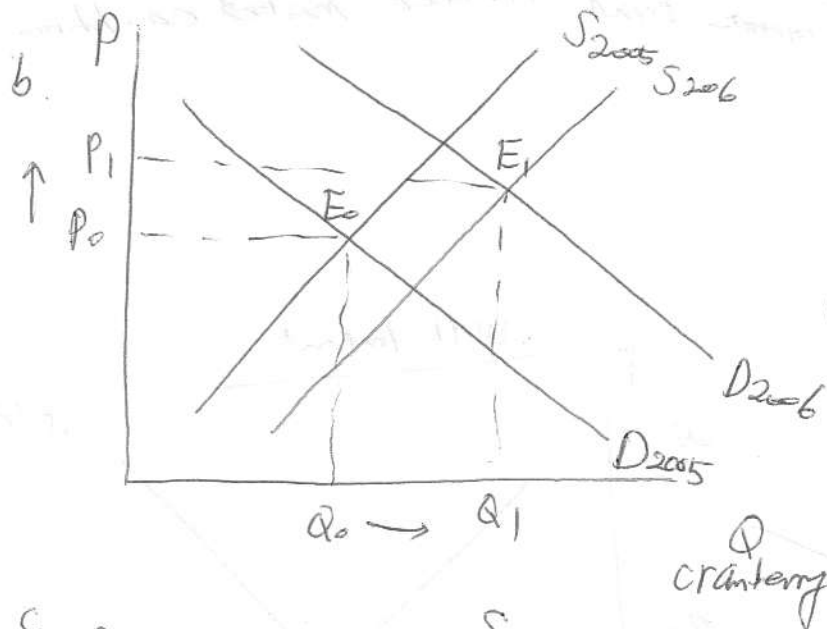
Chapter 3 HW Answers [1, 4, 7, 8, 9, 11]

①



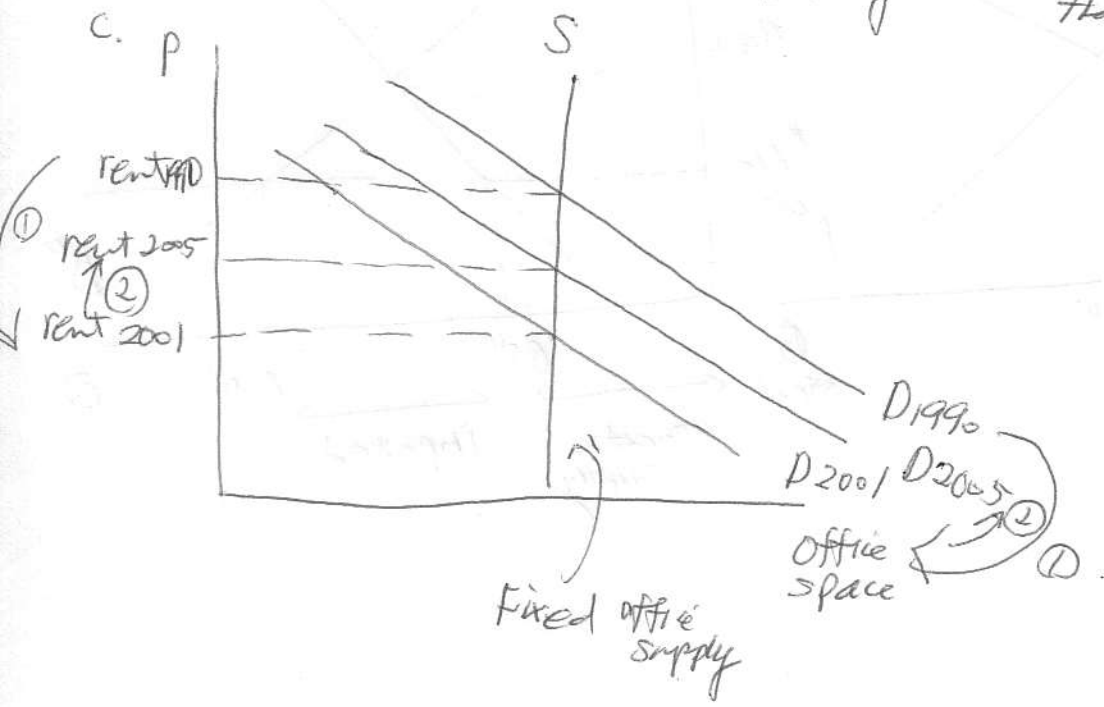
- ① demand for laptop has increased
D shifts to the right
 - ② easier & cheaper to produce due to new technology
S shifts to the right
 - ③ price has fallen
- The shift of S is larger than the shift of D

→ The Effect of shifting S dominates
P ↓, Q ↑



- ① S increased from last year (2005)
S shifts to the right
- ② Demand increased even more
D shifts to the right
- ③ price increased.

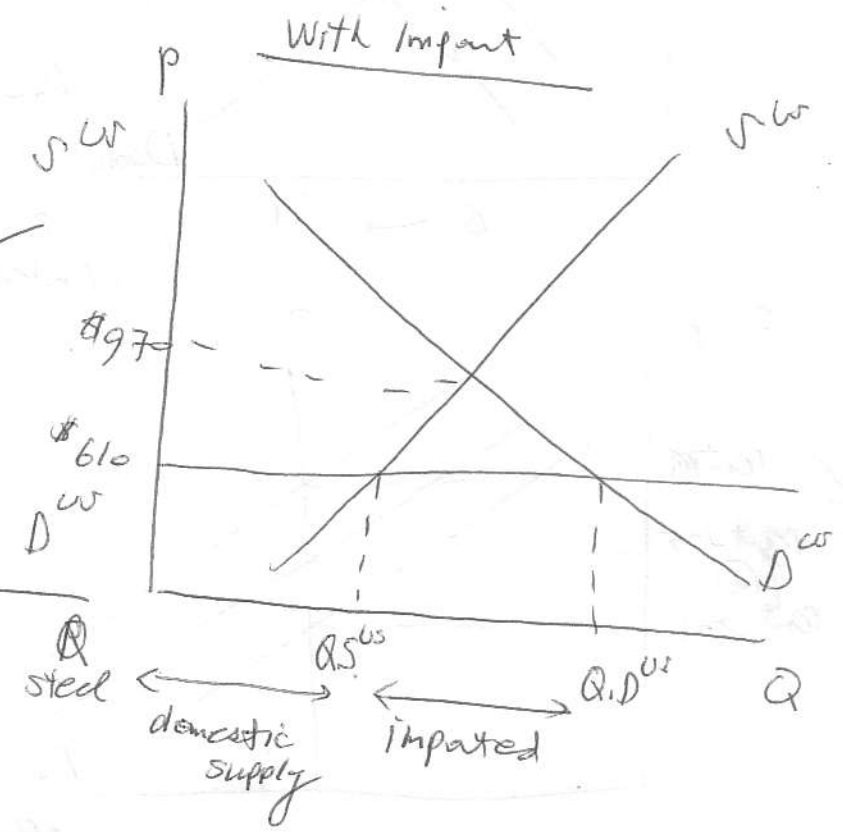
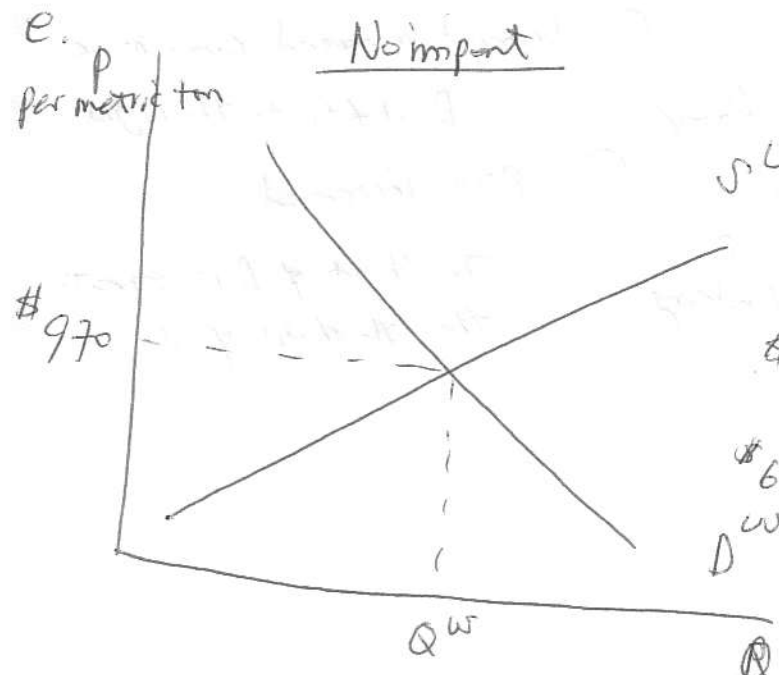
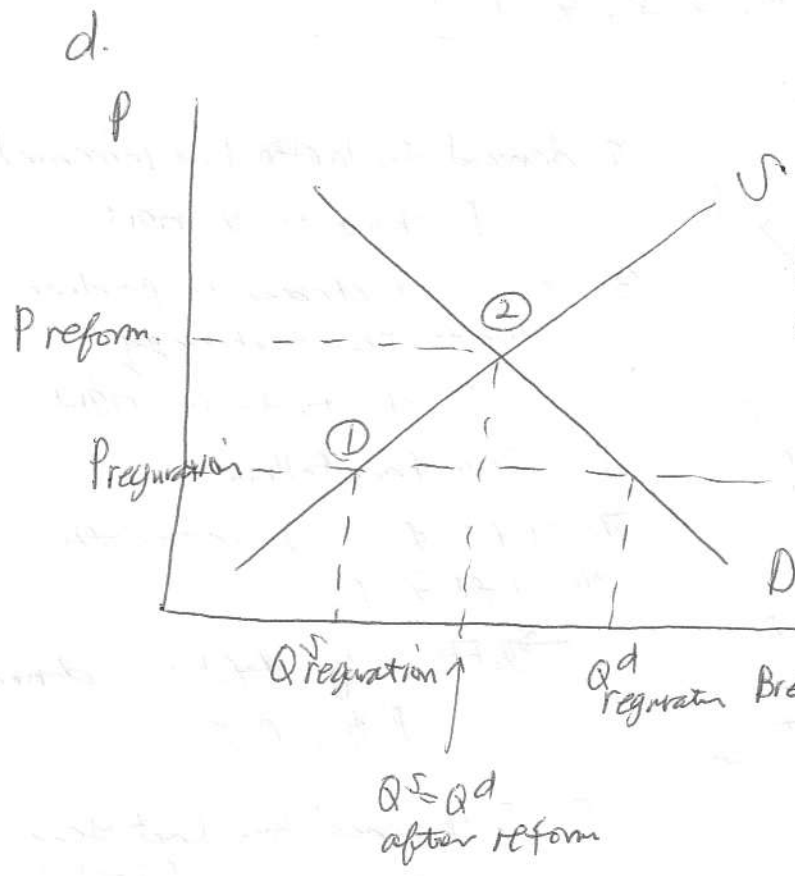
The shift of D is greater than the shift of S.



- ① rent 2005
- ② rent 2001

Office space

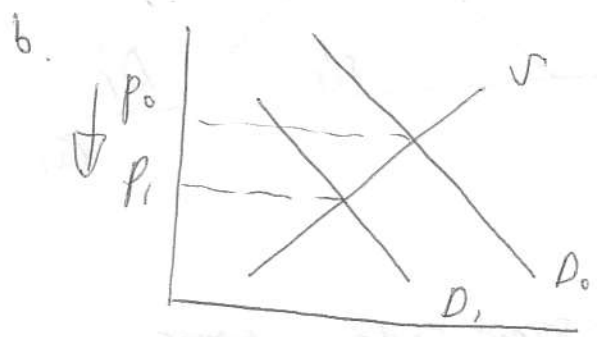
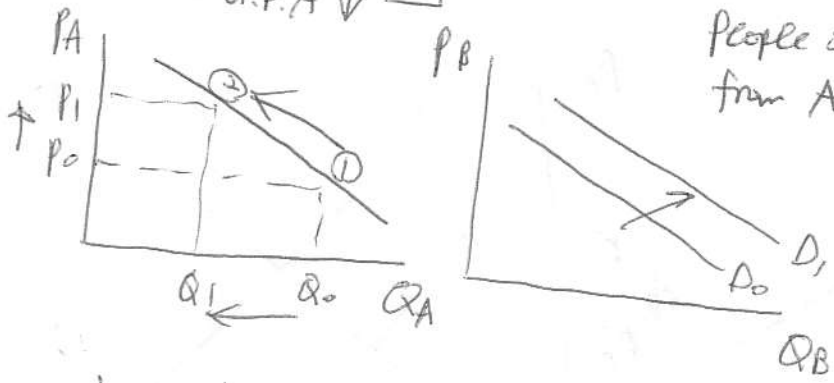
Fixed office supply



4. a. $P_A \uparrow \rightarrow \text{Demand B} \nearrow$
 $\hookrightarrow Q, P, A \downarrow$

Disagree They are substitutes.

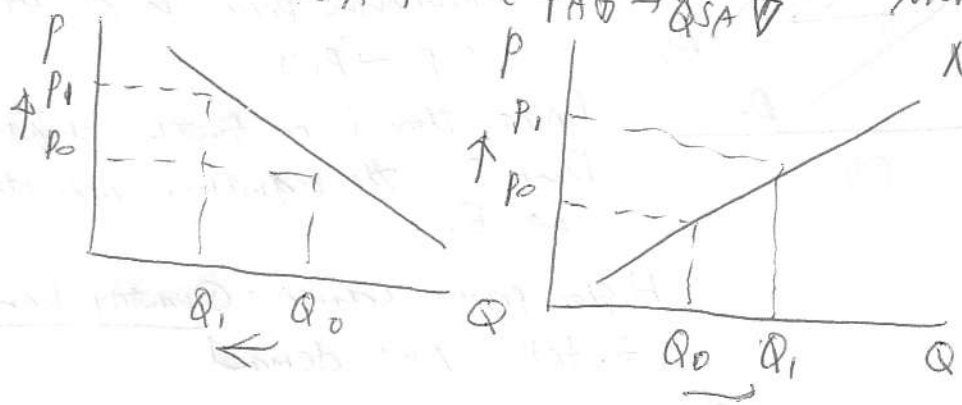
People shifted their consumption from A to B.



Agree Given S , a shift in D downwards (decrease in D) results in $P \downarrow$.

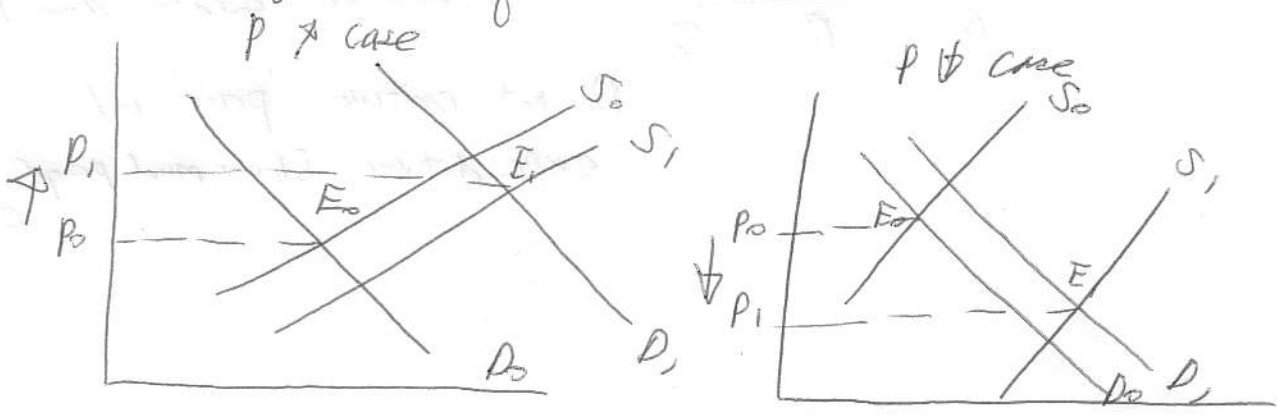
c. $\left. \begin{matrix} P_A \uparrow \rightarrow Q, P, A \downarrow \\ P_A \downarrow \rightarrow Q, P, A \uparrow \end{matrix} \right\} \left\{ \begin{matrix} P_A \uparrow \rightarrow Q, S, A \nearrow \\ P_A \downarrow \rightarrow Q, S, A \searrow \end{matrix} \right.$

Disagree.
 Movement along curves.
 No shifts.

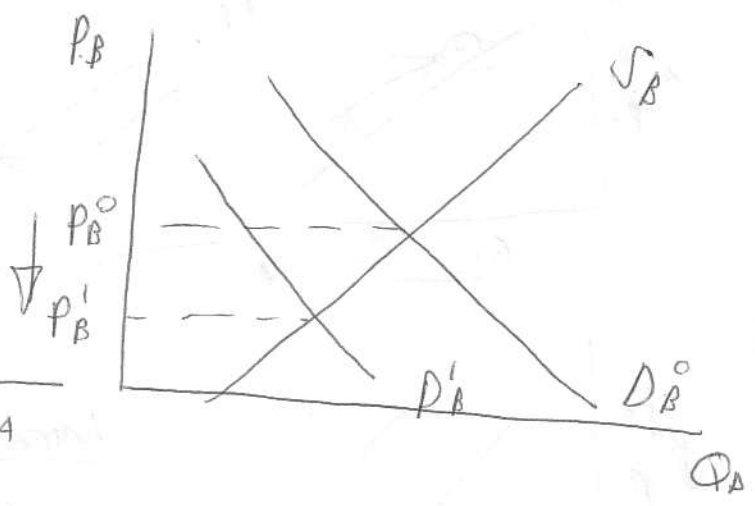
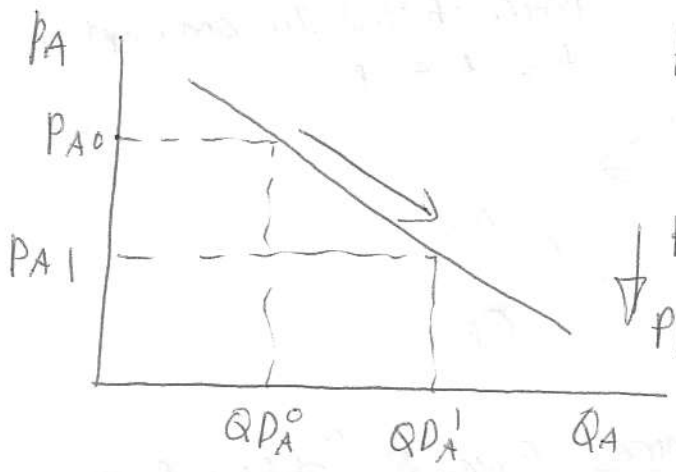


d. Disagree. They can be substitutes
 e.g. low quality beef - low quality lamb.

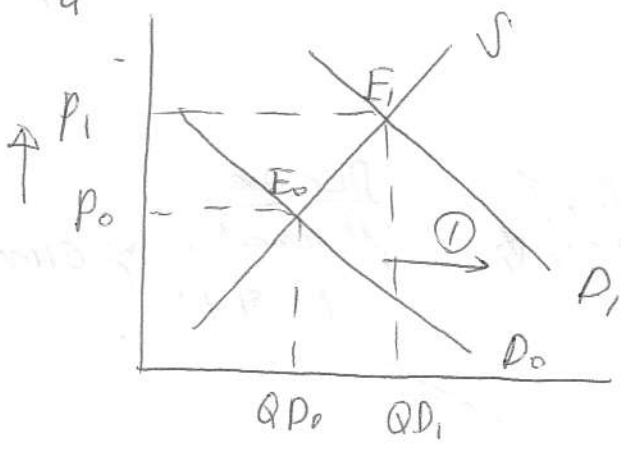
e. Disagree. The direction of the price change depends on the ^{relative} magnitude of shifts of S & D .



E. $P_A \downarrow \rightarrow P_B \downarrow$
 ($\rightarrow Q_{DA} \uparrow \rightarrow D_B \downarrow$ (substitutes))

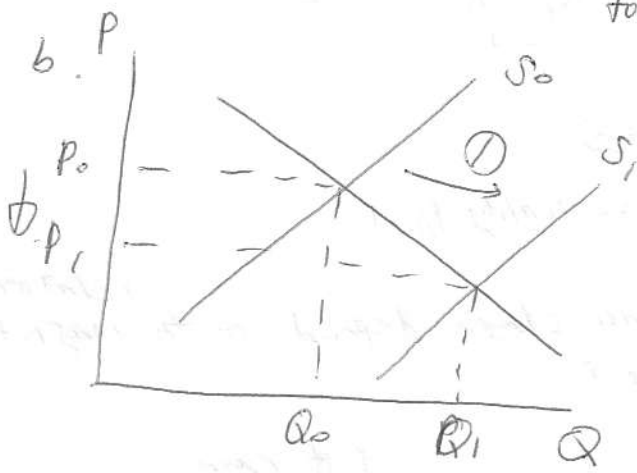


7. a.



The second sentence is wrong.
 The shift in D upward cause the equilibrium price to go up, $(P_0 \rightarrow P_1)$
 Unless there is no further shifts in D or S, the equilibrium will stay at E_1 .

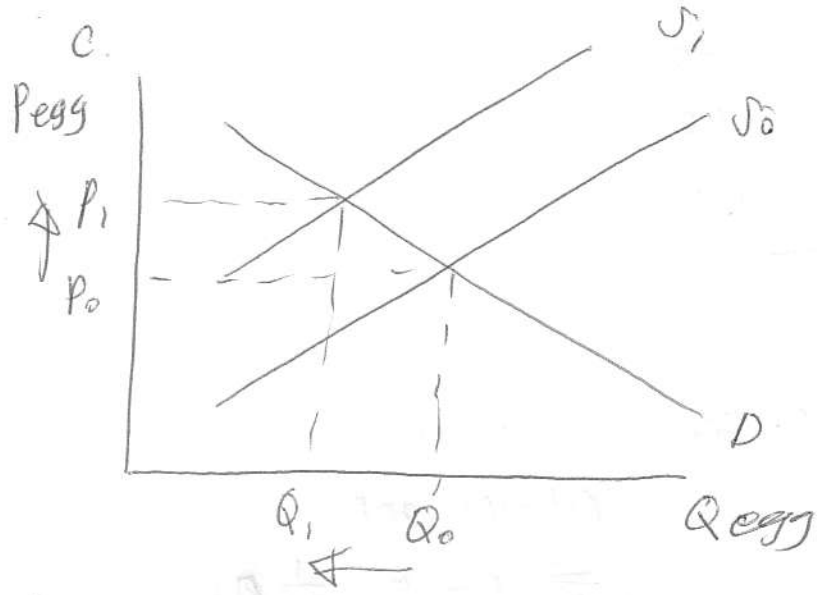
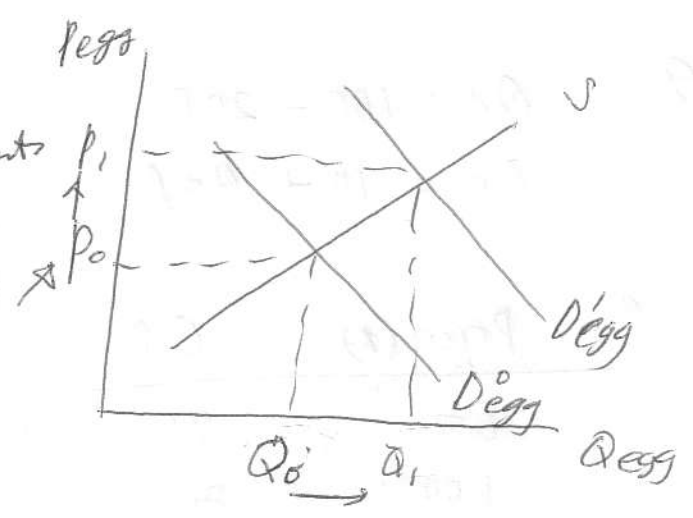
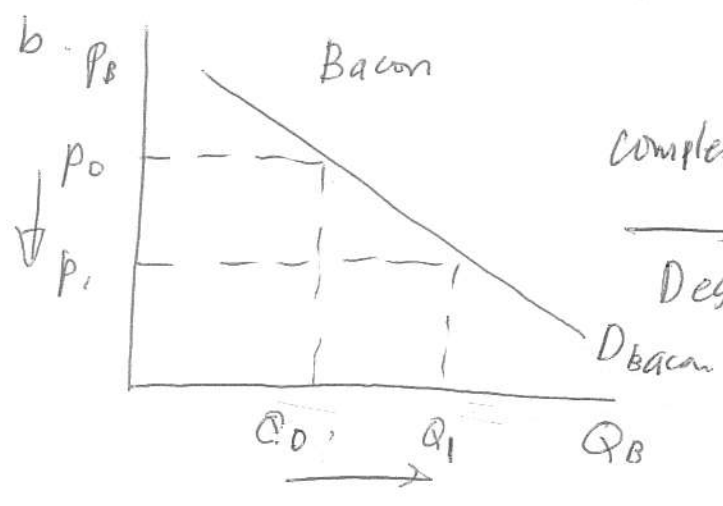
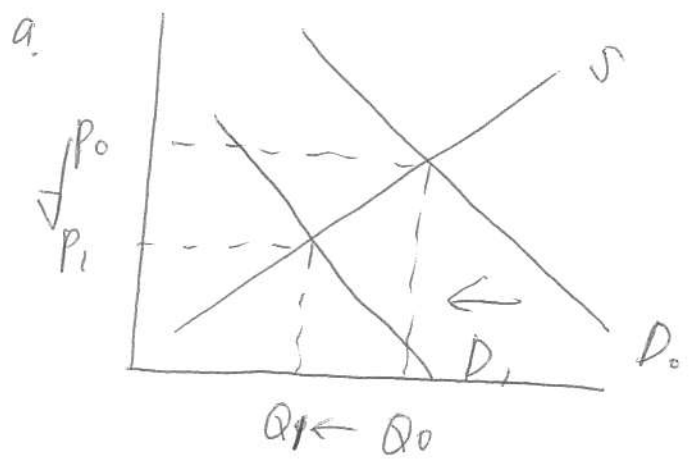
Higher price = cause Quantity Demanded to fall. Not demand.



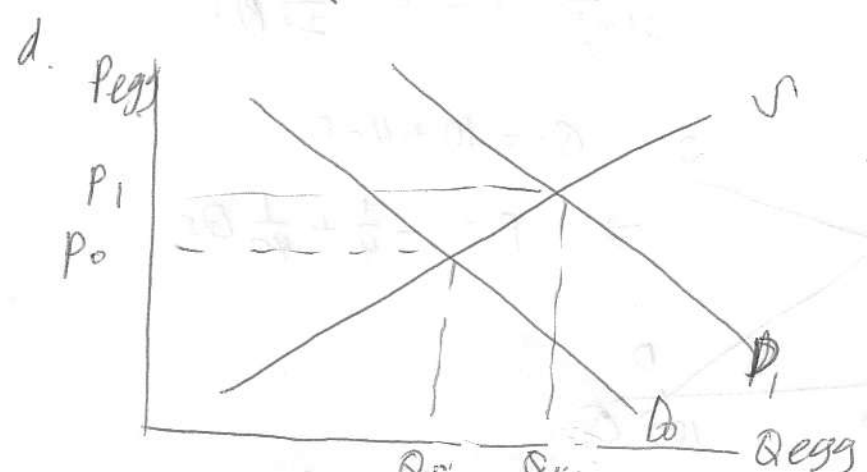
Expenditure = $P * Q$.
 by consumers.
 Depending on the magnitude of S shift, $P_0 Q_0$ may or may not be greater than $P_1 Q_1$.

Do not confuse 'price' w/ expenditure (how much people spend) spend.

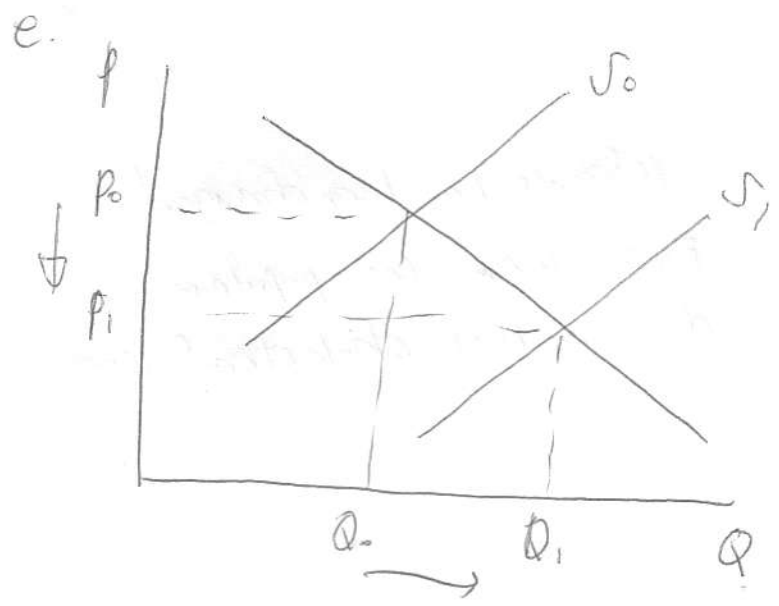
8.



An increase in the price of chicken feed
 ⇒ increase in production cost of eggs
 S↑



Preference has been changed. Egg becomes more popular.



9.

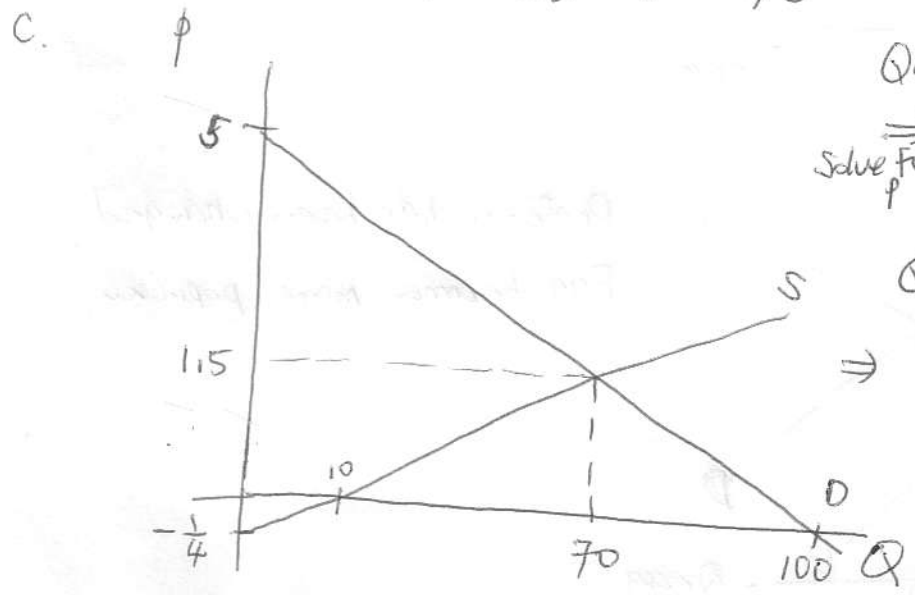
$$Q_d = 100 - 20P$$

$$Q_s = 10 + 40P$$

a.

Price (\$)	Q.D.	Q.S.
0.50	90	30
1.00	80	50
1.50	70	70
2.00	60	90
2.50	50	110

b. At Equilibrium, $Q_D = Q_S$.

$$P^* = 1.5, \quad Q_D = Q_S = 70$$


$$Q_d = 100 - 20P$$

Solve for P

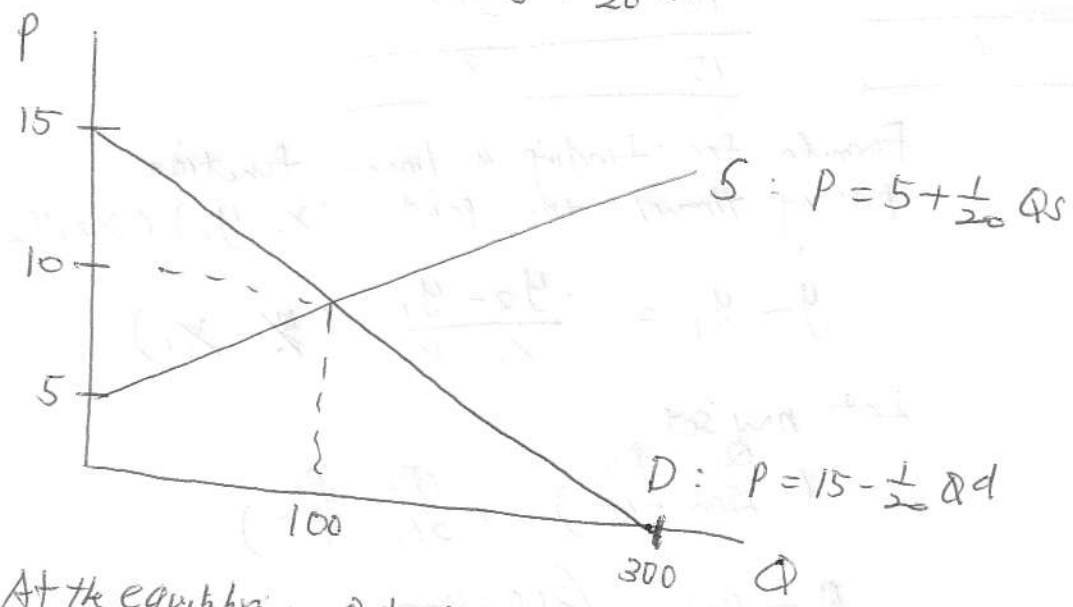
$$P = 5 - \frac{1}{20} Q_d$$

$$Q_s = 10 + 40P$$

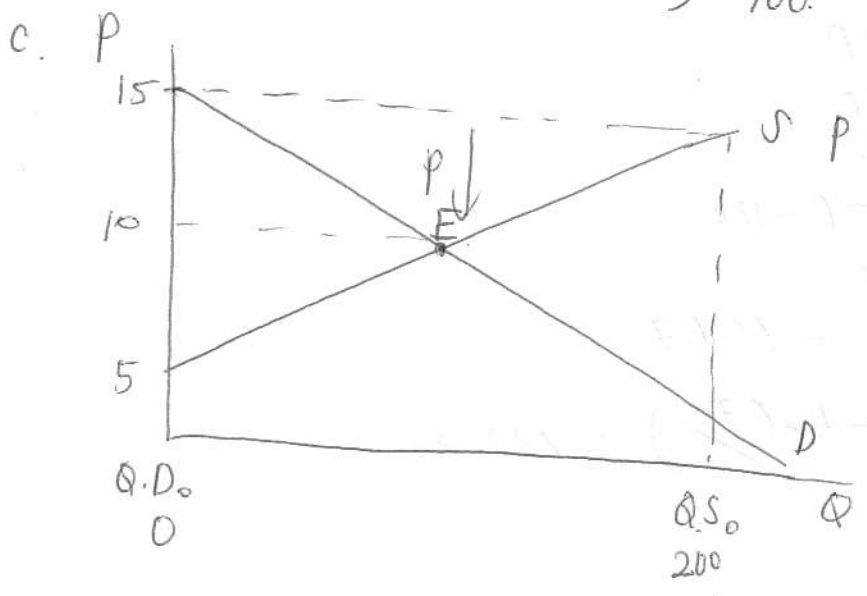
$$\Rightarrow P = -\frac{1}{4} + \frac{1}{40} Q_s$$

11. $Q_d = 300 - 20P$
 $Q_s = 20P - 100$

a. $Q_d = 300 - 20P \Rightarrow P = 15 - \frac{1}{20} Q_d$
 $Q_s = 20P - 100 \Rightarrow P = 5 + \frac{1}{20} Q_s$



b. At the equilibrium, $Q_d = Q_s$
 $300 - 20P = 20P - 100$
 $40P = 400$
 $\begin{cases} P^* = 10 \\ Q^* = 300 - 20(10) = 100. \end{cases}$



$P = 15 \rightarrow Q_d = 0, Q_s \text{ at } Q_{s0}$
 Excess Supply (200)
 \downarrow
 price starts decreasing
 (Some producers drop-out, some consumers enter)
 \downarrow
 Adjustment stops at E.

d.

Ⓐ

<u>Originally</u>		<u>New</u>
$Q_d = 300 - 20P$		
<u> </u>		<u> </u>
P Q		P Q
5 200		5 400
10 100	⇒	10 200
<u> </u>		<u> </u>

Formula for finding a linear function passing through two points (X_1, Y_1) (X_2, Y_2)

$$y - y_1 = \frac{y_2 - y_1}{x_2 - x_1} (x - x_1)$$

Let's now set

$$\begin{matrix} P_1 & Q_1 & P_2 & Q_2 \\ (.5 & 400) & (10 & 200) \end{matrix}$$

$$Q - 400 = \left(\frac{200 - 400}{10 - 5} \right) (P - 5)$$

$$Q = -40P + 200 + 400$$

$$Q_d = -40P + 600$$

e.

$$Q_d = 600 - 40P$$

$$Q_s = 20P - 100$$

$$600 - 40P = 20P - 100$$

$$60P = 700$$

$$P^* = \frac{70}{6} = 11.67$$

$$Q^* = 600 - 40\left(\frac{70}{6}\right) = 133.33$$