

ECC1000: PRINCIPLES OF MICROECONOMICS

Answers to Tutorial Week 3

Chapter 4, Problem 2

The statement is false in general. As Figure 4.11 shows, the increase in demand for notebooks results in an increased quantity supplied. The only way the statement would be true is if the supply curve were vertical, as shown in Figure 4.12.

Figure 4.11

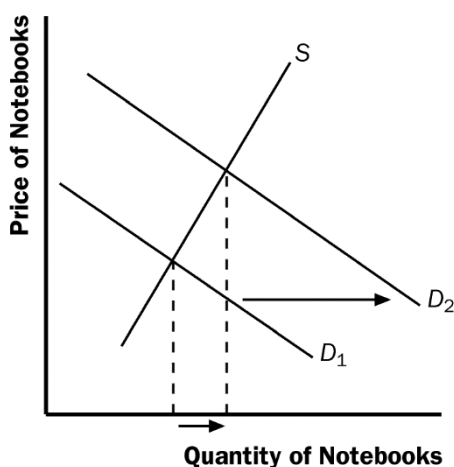
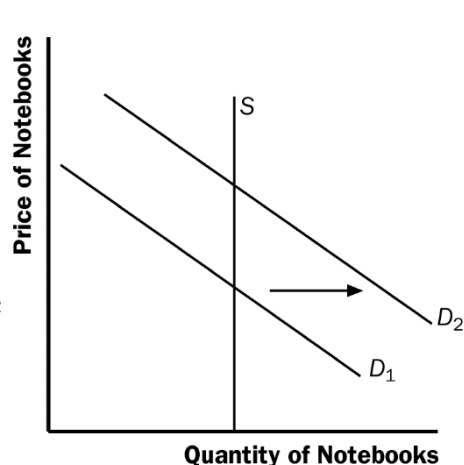


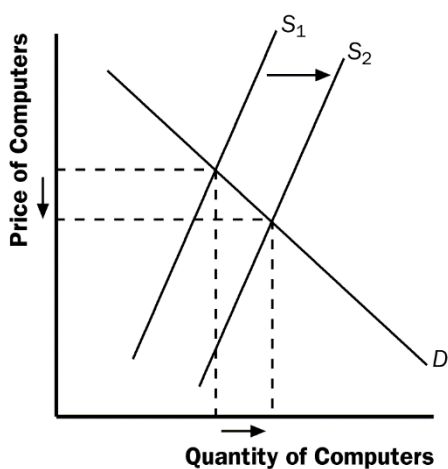
Figure 4.12



Chapter 4, Problem 4

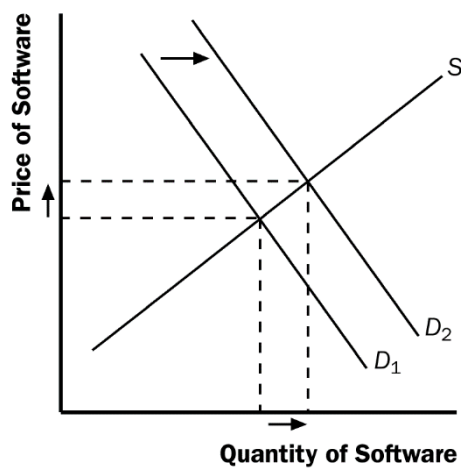
Technological advances that reduce the cost of producing computer chips represent a decline in an input price for producing a computer. The result is a shift to the right in the supply of computers, as shown in Figure 4.18. The equilibrium price falls and the equilibrium quantity rises, as the figure shows.

Figure 4.18



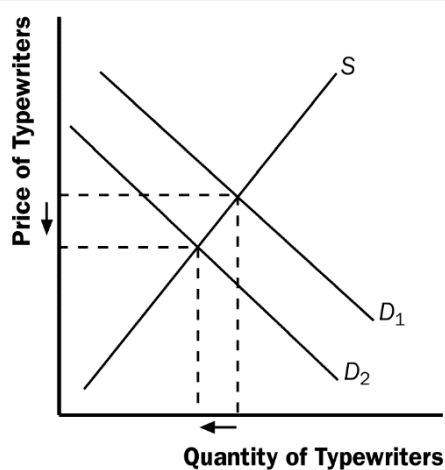
Since computer software is a complement to computers, the increased equilibrium quantity of computers increases the demand for software. As Figure 4.19 shows, the result is a rise in both the equilibrium price and quantity of software.

Figure 4.19



Since typewriters are substitutes for computers, the increased equilibrium quantity of computers reduces the demand for typewriters. As Figure 4.20 shows, the result is a decline in both the equilibrium price and quantity of typewriters.

Figure 4.20



Chapter 4, Problem 5

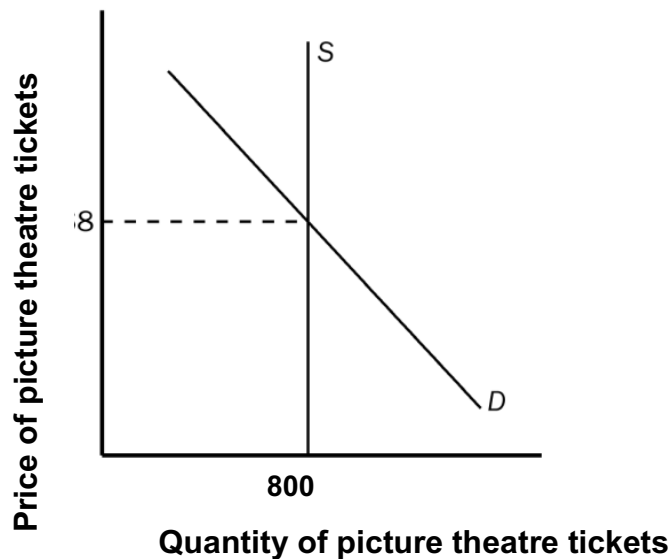
- When an outbreak of 'foot and mouth' disease hits sheep farms in New Zealand, it raises input prices for producing woollen jumpers. As a result, the supply of woollen jumpers shifts to the left. The new equilibrium has a higher price and lower quantity of woollen jumpers.
- A decline in the price of leather jackets (substitutes) leads more people to buy leather jackets, reducing the demand for woollen jumpers. The result is a decline in both the equilibrium price and quantity of woollen jumpers.
- Rihanna wearing a woollen jumper increases the demand for woollen jumpers by changing preferences in favour of woollen jumpers. The result is an increase in both the equilibrium price and quantity of woollen jumpers.

- d. The invention of new knitting machines is an improvement in production technology, which increases the supply of woollen jumpers. The result is a reduction in the equilibrium price and an increase in the equilibrium quantity of woollen jumpers.

Chapter 4, Problem 10

- a. As Figure 4.35 shows, the supply curve is vertical. The constant supply makes sense because the picture theatre has a fixed number of seats no matter what the price is.

Figure 4.35



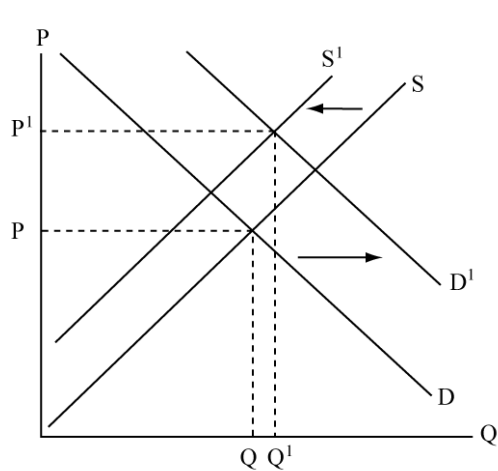
- b. Quantity supplied equals quantity demanded at a price of \$8. The equilibrium quantity is 800 tickets.

Price	Quantity demanded	Quantity supplied
\$4	1400	800
8	1100	800
12	800	800
16	500	800
20	200	800

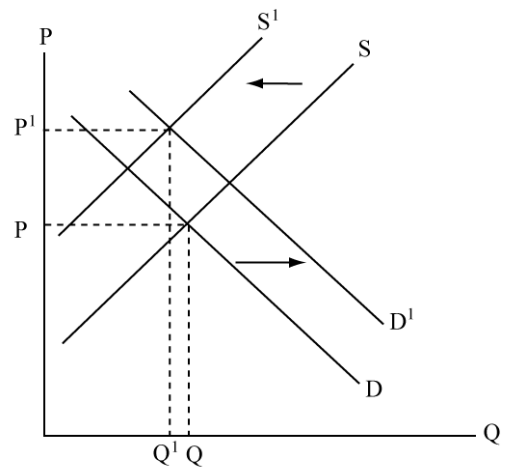
- c. The new equilibrium price will be \$12, which equates quantity demanded to quantity supplied. The equilibrium quantity is 800 tickets.

Extra Question 1

The discovery of the cold-fighting property causes an increase in demand, as shown by a rightward shift in the demand curve for apples (D to D'); the fungus causes a decrease in supply, as shown by the leftward shift in the supply curve (S to S'). The equilibrium price of apples will rise unambiguously (P to P'). However the equilibrium quantity may either increase (Case 1) or decrease (Case 2) or stay the same (diagram omitted) depending on the relative magnitude of the two effects.



Case 1



Case 2

Extra Question 2

- (1) Equating demand and supply, the equilibrium rent is $P = \$500$ and the number of apartments rented in equilibrium is $Q = 1500$.
- (2) With rent control, the quantity demanded is $2000 - 300 = 1700$ and the quantity supplied is $500 + 2(300) = 1100$. Therefore the rent control creates a shortage (or excess demand) of $1700 - 1100 = 600$ rental units. Possible adverse effects of the shortage are: (i) maintenance will decline and housing quality will fall; (ii) illegal payments such as key money and additional (non-refundable) deposits, (iii) discrimination (e.g., no pets, no children, etc.)