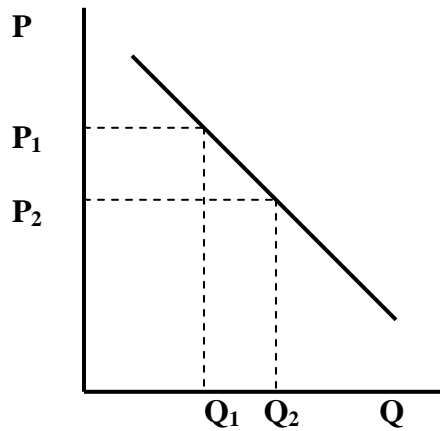


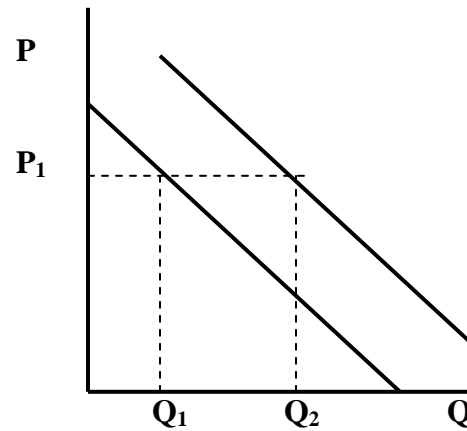
EC111 Introduction to Economics: Class Exercises 2

Outline Answers

1 (a)

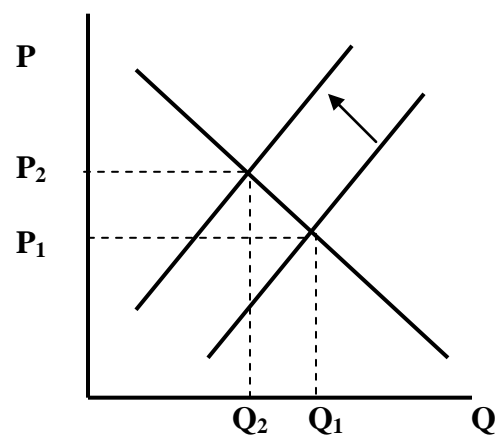
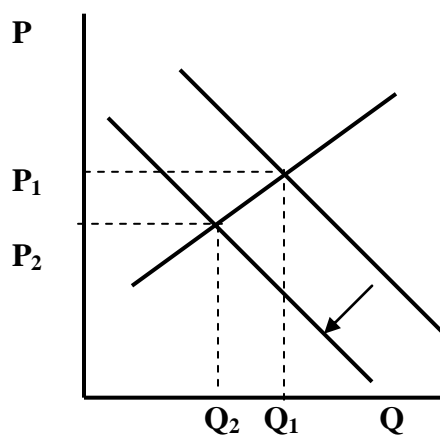


Shift *along* the demand curve



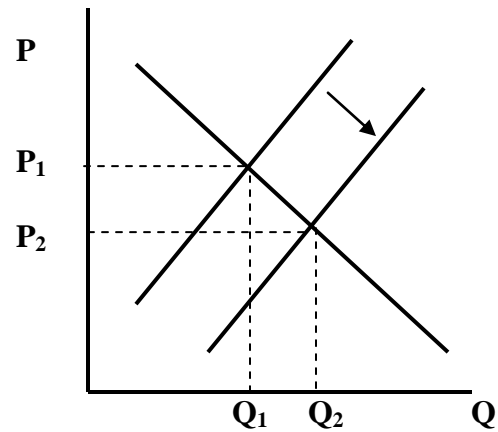
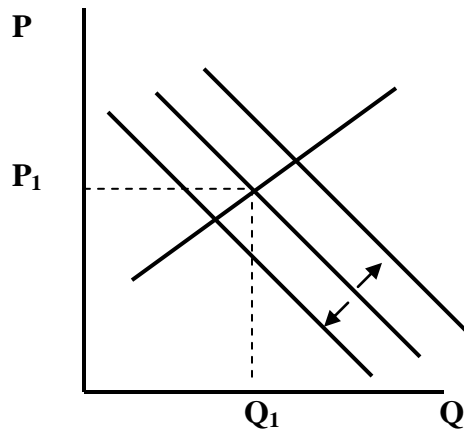
Shift *of* the demand curve

(b)



(i) (left). If beef is a substitute, a fall in its price causes consumers to demand less pork at each price. So the demand curve for pork shifts to the right, price and quantity falls.

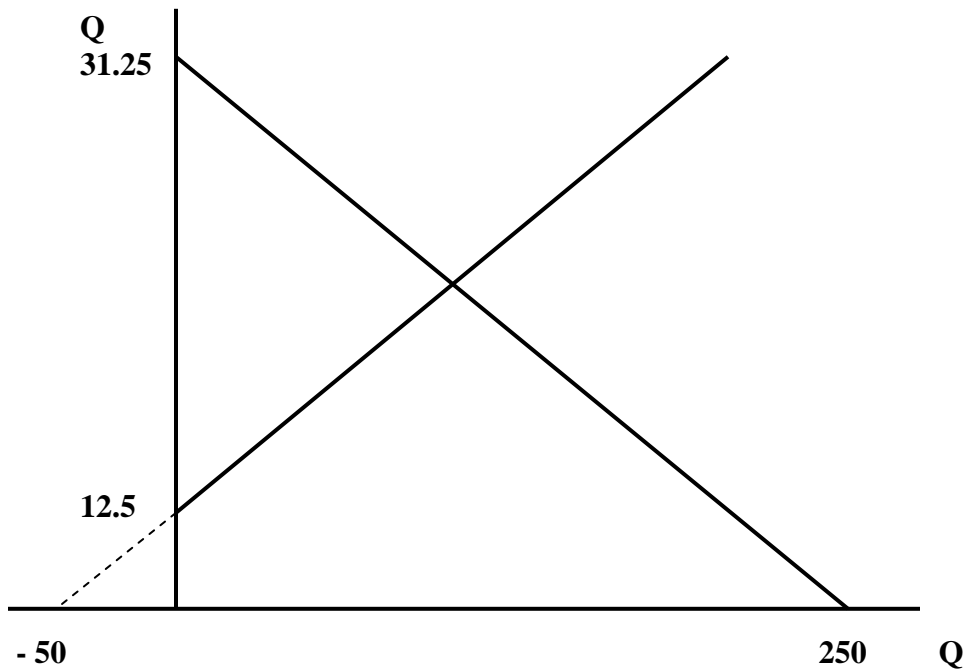
(ii) (right) An increase in the price of feed increases the cost of pork farming so that producers are willing to supply less at each price. So the supply curve shifts to the left, the price increases and the quantity falls.



(iii) If pork is a normal good then the demand curve will shift to the right when consumers' income increases. But if it is an inferior good the demand curve would shift to the left.

(iv) 'Innovation' means more efficient methods of production, which reduces the cost per unit. The supply curve shifts to the right; equilibrium price falls and quantity increases.

2 (a)



Demand: Linear function, so it is a straight line.

$$\text{At } P = 0: Q^D = 100 - 8 \times 0 + 0.5 \times 300 = 250$$

$$\text{At } Q^D = 0: 0 = 100 - 8P + 0.5 \times 300, \text{ so, } P = 250/8 = 31.25$$

Supply: Linear function, so also a straight line

$$\text{At } P = 0: Q^S = -10 + 4 \times 0 - 4 \times 10 = -50$$

$$\text{At } Q^S = 0: 0 = -10 + 4P - 4 \times 10; \text{ so } P = 50/4 = 12.5$$

At market equilibrium $Q^D = Q^S$

$$100 - 8P + 0.5Y = -10 + 4P - 4W$$

$$100 + 0.5Y + 10 + 4W = 4P + 8P$$

$$P^* = \frac{110 + 0.5Y + 4W}{12}$$

$$\text{For } Y = 300; W = 10: P^* = \frac{110 + 150 + 40}{12} = 25$$

$$\text{Using the demand curve: } Q^* = 100 - 8P + 0.5Y = 100 - 8 \times 25 + 0.5 \times 300 = 50$$

(b)

Remember that $P^* = \frac{110 + 0.5Y + 4W}{12}$

So for $Y = 420$, $W = 10$, we have $P^* = \frac{110 + 210 + 40}{12} = 30$

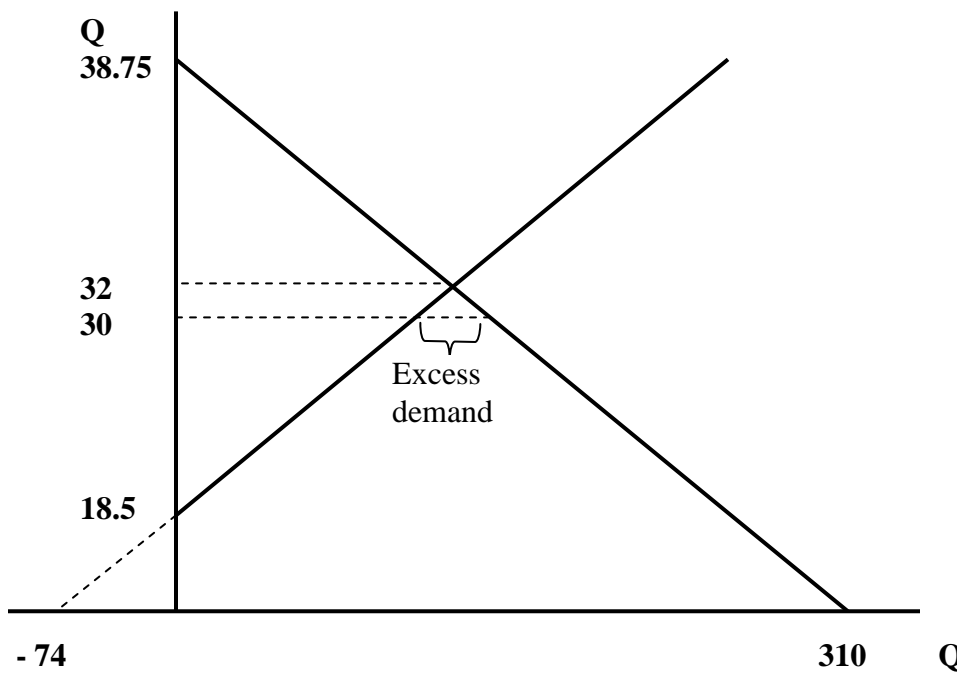
And $Q^* = 100 - 8 \times 30 + 0.5 \times 420 = 70$

(c)

Similarly for $Y = 420$, $W = 16$, we have $P^* = \frac{110 + 210 + 64}{12} = 32$

And $Q^* = 100 - 8 \times 32 + 0.5 \times 420 = 54$.

(d)



With $Y = 420$, $W = 16$ we have $Q^* = 54$ and $P^* = 32$. If the government sets a price ceiling at $P = 30$ there will be excess demand. Demand will be higher than 54 and supply will be lower than 54.

There would have to be some method of allocating or rationing the goods among the buyers. Alternatively the government could produce and sell enough units to eliminate excess demand. That would be equivalent to shifting the supply curve to the right until the equilibrium price falls to $P = 30$. Another policy might be to reduce the wage, which would shift the market supply curve to the right. [As an additional exercise you might like to find the wage rate that the government should choose, and think about how the policy might work in practice].