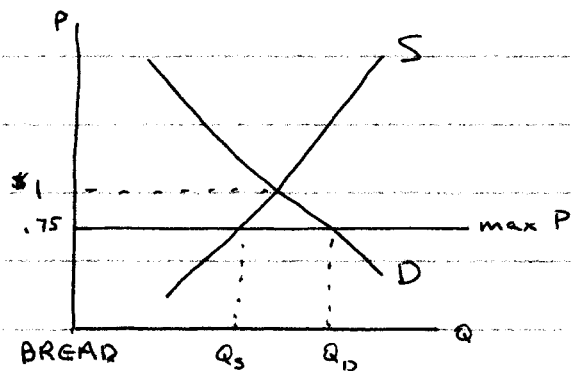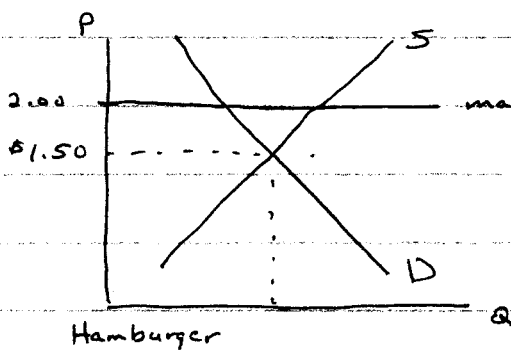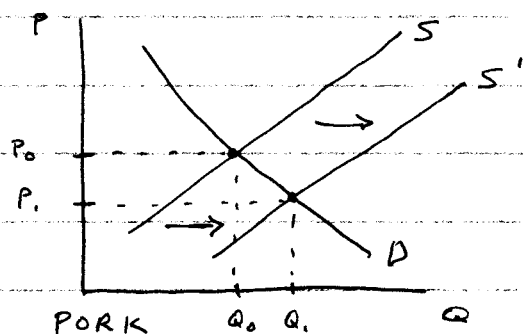①

At the maximum legal
price, consumers
will demand more than
firms will supply, so
there will be a shortage of bread.

(or sellers will reduce the size of their loaves)
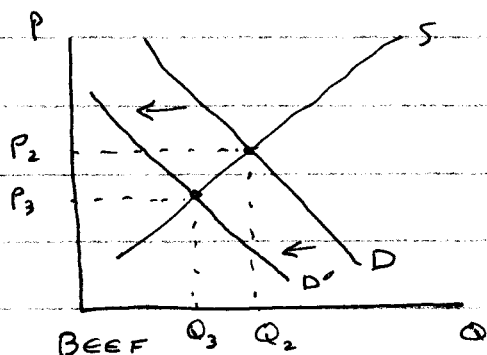

A maximum price set
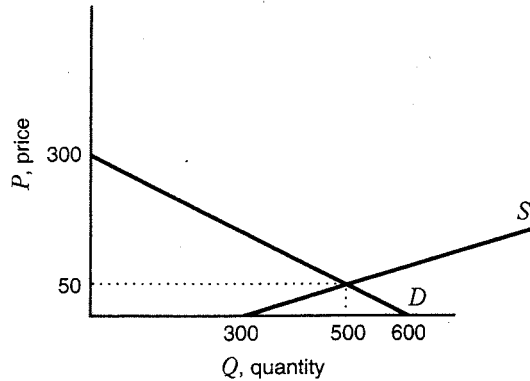above the market-clearing
price has no effect.

②

Improvement in technology
of producing pork shifts
supply to right, resulting
in lower price and higher
quantity.

Beef and Pork are substitutes.
A drop in the price of
pork will cause demand
for beef to decline, resulting
in lower price and quantity.

P, price

300

50

S

D

300   500   600

Q, quantity

$$600 - 2P = 300 + 4P$$
$$300 = 6P$$
$$50 = P$$

Plugging $P = 50$ back into either the supply or demand equation yields $Q = 500$.

2.9 **a.** Arc-price elasticity of demand = $|(6/65)/(ñ1/108.5)| = 1$

Income-price elasticity of demand = $(5/67.5)/(100/2050) = 1.51$

Cross-price elasticity of demand = $(8/66)/(1/110.5) = 13.3$

b. They are substitutes because the cross-price elasticity of demand is positive.

c. American's seats are a normal good since the income elasticity is positive.

2.15 Elasticity of demand = (Percentage change in quantity demanded)/(percentage change in price). This can be rearranged to:

Percentage change in price = (Percentage change in quantity demanded)/(Elasticity of demand) = ñ0.1/-0.4 = .25. Therefore, the price increased by fifty cents. Total spending on gasoline will increase since demand is inelastic and price increased. Total expenditure rises from $2Q to $2(1.25)(.9Q) or from $2Q to $2.25Q or by 12.5 percent.