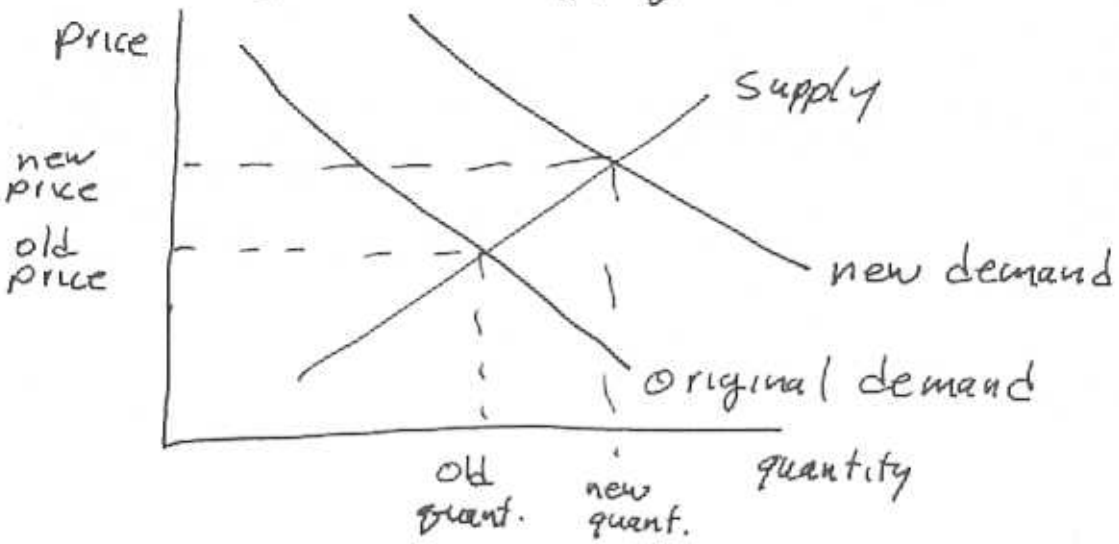
1. Costs that can be reduced by altering production are referred to as sunk costs.

False.

Sunk costs are costs that you can't change by altering any of the actions you can change at this point in time.

2. If the price of a good has increased and the quantity of the good sold has decreased, the demand curve for the good has shifted to the right.

Is it a shift of demand to the right?



No. If demand shifted to the right, price would increase and quantity would also increase.

False

3. With a price inelastic demand curve, price and total revenue move in the same direction as you move along the demand curve.

Remember this?

$$R = p \cdot q$$

where R is total revenue, p is price and q is quantity.

$$\frac{\Delta R}{R} \cong \frac{\Delta p}{p} + \frac{\Delta q}{q}$$

The elasticity of demand is

$$E_d = \frac{\Delta q}{q} \Big/ \frac{\Delta p}{p}$$

$$\frac{\Delta q}{q} = \frac{\Delta p}{p} E_d$$

Substituting into above

$$\frac{\Delta R}{R} \cong \frac{\Delta p}{p} + E_d \frac{\Delta p}{p}$$

$$\cong \frac{\Delta p}{p} (1 + E_d)$$

If demand is inelastic, $0 > E_d > -1$,

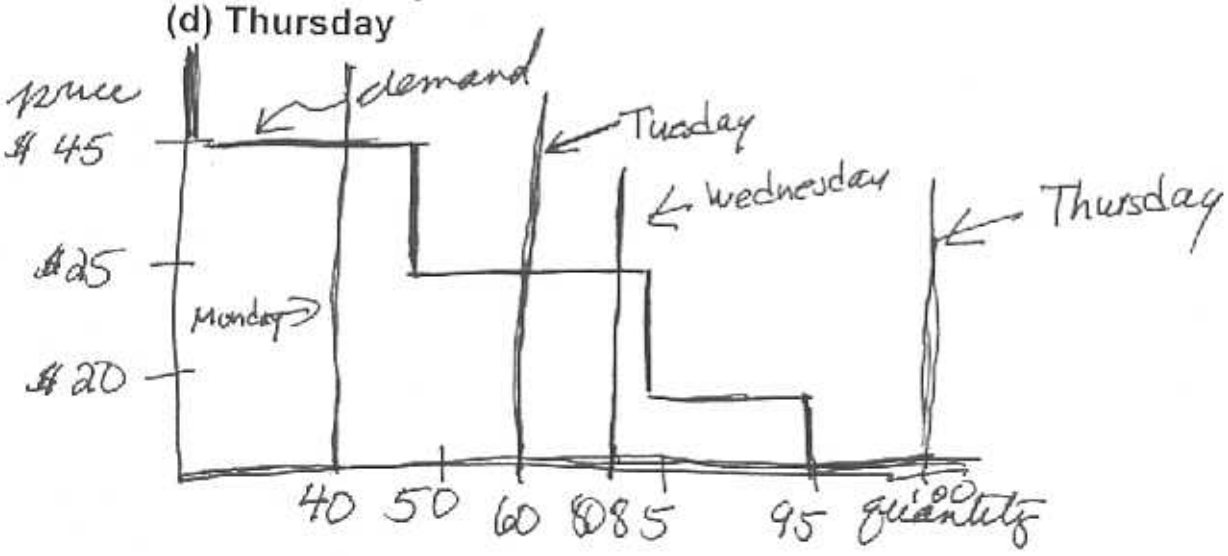
so $(1 + E_d) > 0$

The ΔR is positive if Δp is positive

True.

4. Every day at the local fish market, there are 50 demanders who are willing to pay up to $45 for a fish, 35 demanders who are willing to pay up to $25 for a fish, and 10 demanders who are willing to pay up to $20 for a fish. No demander wants more than one fish. There are 20 fishermen who sell fish in this market. Every day the fishermen arrive with the day's catch. Each fisherman has spent $10 on fuel for his boat the night before, but they have no other costs. Fish that are not sold on the same day they are caught will rot and become worthless. Every day the fish market reaches a competitive equilibrium price for the day's fish. On Monday each fisherman caught 2 fish, on Tuesday each fisherman caught 3 fish, on Wednesday each fisherman caught 4 fish, and on Thursday each fisherman caught 5 fish. On which day did the fishermen make the greatest profit?

(a) Monday
(b) Tuesday
(c) Wednesday
(d) Thursday

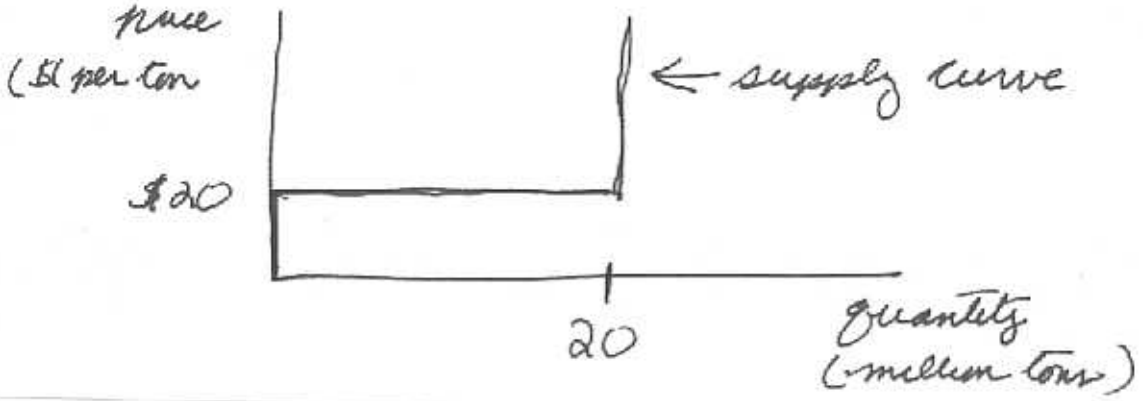


	Price	Quantity	Revenue	Profit
Monday	$45	40	$1,800	$1,600
Tuesday	$25	60	$1,500	$1,300
Wednesday	$25	80	$2,000	1,800
Thursday	$10	95	$0	−$200

5. It is late August. The nation's corn crop is ripe in the fields, but none of it is harvested. It is known that if it is all harvested, the total amount of corn harvested will be 20 million tons. The cost of harvesting the corn and bringing it to market (rather than leaving it in the fields and plowing it down) is $20 per ton. Farmers have spent $30 per ton on preparing, fertilizing, and cultivating the corn fields. On a graph where quantity is on the horizontal axis (measured in millions of tons) and the price is on the vertical axis (measured in dollars per ton), the supply curve in late August for this year's corn delivered at harvest time consists of

(a) a line running from (0,0) to (0,20), a line from (0,20) to (20,20), and a line running vertically straight up from (20,20).
(b) a line running from (0,0) to (20, 0) and a line running vertically straight up from (20,0).
(c) a line running from (0,0) to (0,50), a line from (0,50) to (20,50), and a line running vertically straight up from (20,50).
(d) a horizontal line at the height of 20.

The $30 per ton on preparing, fertilizing and cultivating is a sunk cost. It doesn't affect supply. However, the $20 per ton of bringing the corn to market is not sunk. Thus, at every price below $20 per ton, no corn will be supplied. Above $20 per ton, 20 million tons will be supplied. The supply curve is

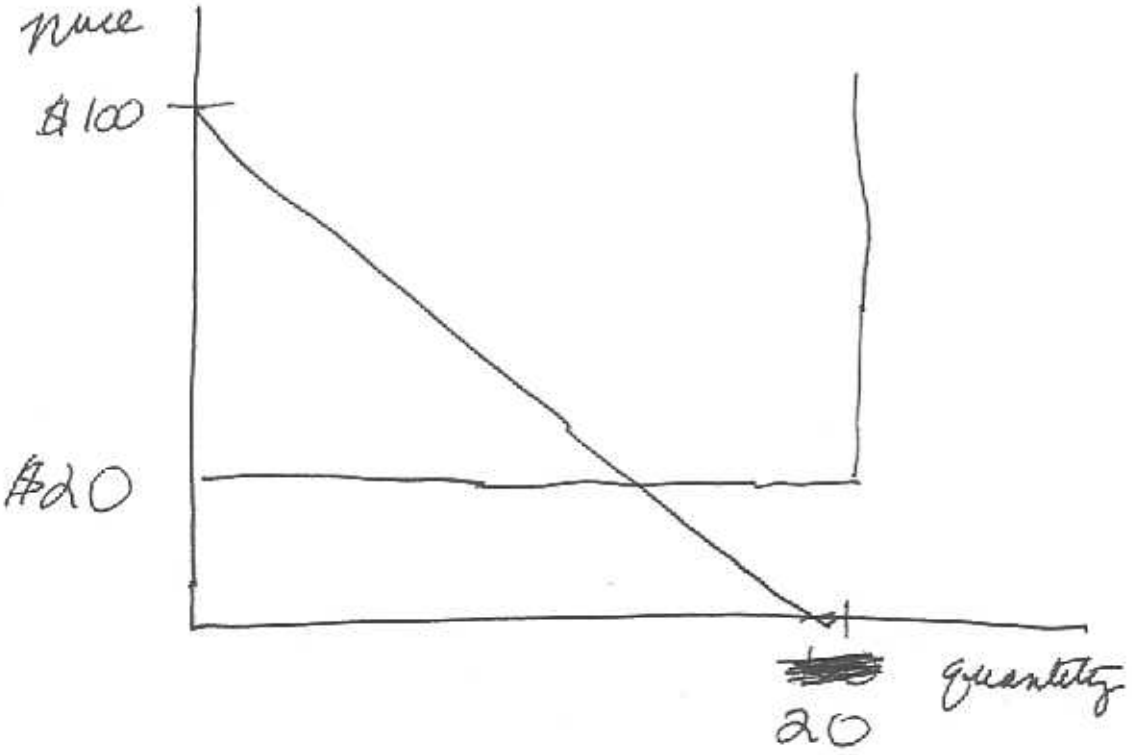


6. The demand curve for this year's corn harvest in the market described in the previous question is given by the equation P=100-5Q, where Q is the millions of tons of corn that are sold and P is the price per ton of corn. Assuming the market reaches a competitive equilibrium, how many million tons of corn will be brought to market ?

(a) 10
(b) 14
(c) 16
(d) 20

When $Q=0$, $P=100$. When $Q=20$, $P=0$.

The demand curve is a straight line between these two points.



The equilibrium price is $20.

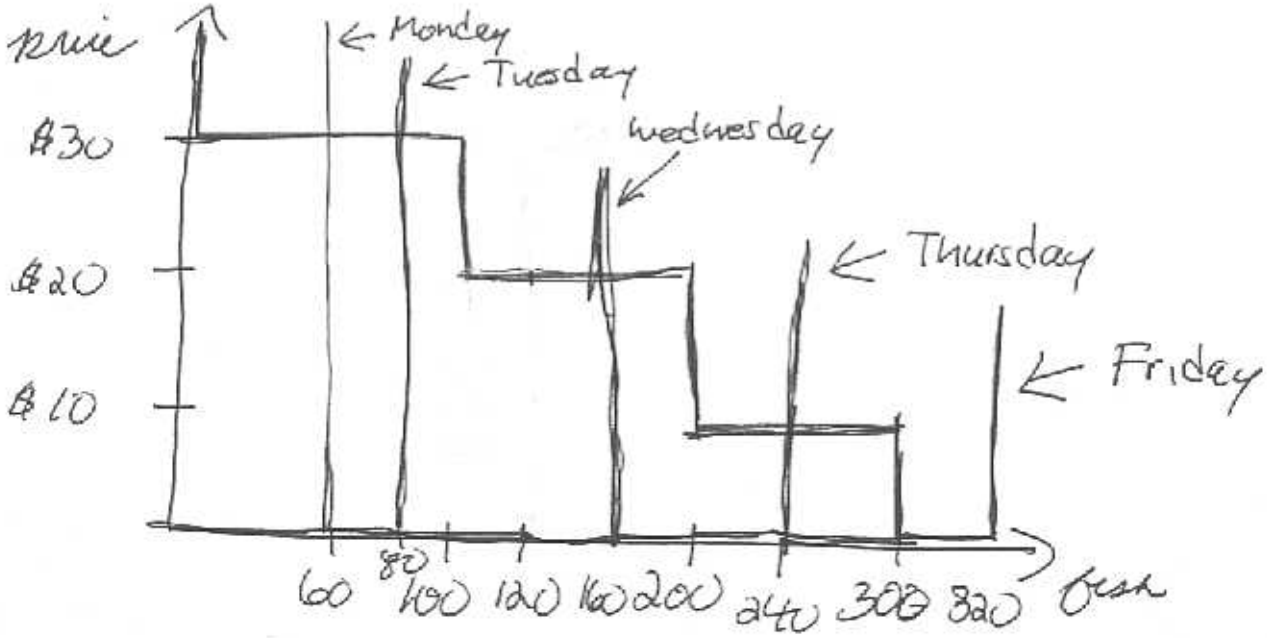
7. A drought in the southwest reduced the supply of watermelons produced in Arizona this year. Despite their reduced crop, watermelon growers in Arizona actually earned more total revenue this year than last year. Assuming the demand curve did not change, the increase in total revenue is evidence that

(a) the price elasticity of supply for watermelon is between 0 and +1.0.
(b) the price elasticity of demand for watermelon is between -1.0 and 0.
(c) the price elasticity of supply for watermelon is greater than +1.0.
(d) the price elasticity of demand for watermelon is less than -1.0.

The drought has reduced the supply curve, so we are moving along the demand curve. Thus, the price elasticity of demand is relevant. If the price elasticity of demand is between 0 and -1, an increase in price increases total revenue.

8. Every day at the local fish market, there are 100 demanders who are willing to pay up to $30 for a fish, 100 demanders who are willing to pay up to $20 for a fish, and 100 demanders who are willing to pay up to $10 for a fish. No demander wants more than one fish. There are 20 fishermen who sell fish in this market. Every day the fishermen arrive with the day's catch. Each fisherman has spent $100 on fuel for his boat the night before, but they have no other costs. Fish that are not sold on the same day they are caught will rot and become worthless. Every day the fish market reaches a competitive equilibrium price for the day's fish. On Monday each fisherman caught 3 fish. On Tuesday, each fisherman caught 4 fish, on Wednesday, each fisherman caught 8 fish, on Thursday, each fisherman caught 12 fish, and on Friday each fisherman caught 16 fish. What was the price of fish on Thursday?

(a) $35
(b) $30
(c) $20
(d) $15
(e) $10



On Thursday, the price was $10

9. On which day did the fishermen make the greatest profit?
(a) Monday
(b) Tuesday
(c) Wednesday
(d) Thursday
(e) Friday

	Price	Quantity	Total Revenue	Profit
M	$30	60	1,800	-200
T	$30	80	2,400	400
W	$20	160	3,200	1,200
T	$10	240	2,400	400
F	$0	300	0	-2,000

Total profit was highest on Wednesday

10. Suppose the cost of fuel for a day's fishing rose from $100 to $150. Assuming that the fishermen all continue to fish, what would be the effect or this increase on the price of fish on those days when each fisherman catches 12 fish?
(a) There would be no effect on price.
(b) The price per fish would rise by about $12.50 per fish.
(c) The price of fish would rise by about $6 per fish.
(d) The price of fish would fall. (
(e) The price of fish would rise by about $3 per fish.

The fuel cost is a sunk cost and thus does not effect supply or the price.

11. An improvement in the weather led to an increase of 80% in the size of the corn crop. The demand curve for corn did not change. The price of corn fell by 20%. From this we can conclude that:

(a) The elasticity of demand for corn is -4.
(b) The elasticity of demand for corn is-1/4.
(c) The elasticity of supply for corn is -4
(d) The elasticity of supply for corn is 1/4.
(e) The elasticity of supply for corn is -1/4

Supply changed and demand did not change. Thus, we are moving along the demand curve. The elasticity of demand is

$$E_d = \frac{\Delta Q}{Q} \Big/ \frac{\Delta P}{P}$$

$$= \frac{80\%}{-20\%}$$

$$= -4$$