ECON 102 Kagundu – Exam 1 – Practice Exam Solutions

1. C – The study of how people make choices. Answer B is incorrect because wants are considered to be unlimited.
2. D – Everyone faces scarcity because wants are considered to be unlimited.
3. C – The economy does not affect the way people THINK about interactions. Is it closer related to how individuals actual interact with society.
4. D – We want our economic modeling to be based on verifiable assumptions, not opinionated assumptions
5. B – General price levels is a macroeconomic factor.
6. D – How businesses react to price controls. The rest are macroeconomic factors.
7. B – This is an assumption of bounded rationality which is different than a rule of rational behavior.
8. B – Remember that economists say we cannot define what is considered a need versus a want.
9. D – Economists test their models by examining what has already happened.
10. D – Nothing changes other than the factor or factors being studied.
11. B – The extra cost associated with an extra unit of activity because marginal means extra or incremental.
12. B – Price because it is a factor included in the supply and demand model.
13. D – Scarcity exists because society cannot fulfill all human wants.
14. D – Goods that individuals can use to receive satisfaction. Answer C is incorrect because demand must be greater than supply at a price of zero.
15. A – Humans have unlimited wants. Economists consider needs to be "objectively undefinable."
16. B – The price of a commodity tells us how much demand there is for the good. If the price is high, the good is in high demand, and if the price is low, the good has low demand. Think about the price of oil. When it is in high demand the price is high and when demand is low the price is low.
17. D – Giving up the experience you would have gained during the internship you would have actually chosen. Opportunity cost is the value of the <u>next-best</u> alternative.
18. C – Resources are <u>fixed</u> during the set period of time.
19. C – The PPC will be bowed if resources are specialized.
20. B – Is an inefficient point.
21. A – When a given level of inputs produce the maximum possible output. Answer choice B should have said "lowest possible cost."
22. A – Is why the PPC is generally bowed.

23. D – Trade protection; make sure you know the other 3 choices are all factors that will cause economic growth.
24. D – Individuals are able to produce <u>more</u> when they specialize.
25. A – Answers B and C are definitions of absolute advantage.
26. A – We see specialization occur in society because different individuals experience different costs when engaging in the same activities.
27. A – We can see from the data points that there is a constant tradeoff between each of the levels of production. If you see a question similar to this on the test there is a good chance there will be a constant trade off because it makes the most sense for this type of question to deal with a straight line PPC. Remember that a constant trade off ratio means that we are dealing with a straight line PPC.

    To find the tradeoff ratio all we need to do is find the slope of this straight line PPC. We can do this by picking any two points and finding the change in the rise over the change in the run.

    Slope = ΔRise/ΔRun

    We can pick any two points from the chart so let's use (0,12) and (2,6). When given a chart like this and given no more information it is safe to assume the first variable given is the variable for the x axis and the second variable is the variable for the y axis.

    Slope = (12 – 6)/(0 – 2)

    Slope = -6/2 = -3/1

    So our tradeoff ratio is going to be 3:1. This means that we will give up 3 funnels for every set of ping pong balls we make.

28. B – Have an inverse relationship.
29. D – If the relative price of a good decreases consumer will demand more of the good.
30. B – B demonstrates the inverse relationship between price and quantity. Probably best to choose answer choice D after you take your exam.
31. D – Remember that comparative advantage means "lowest opportunity cost"
32. D – Means that there was a change inone of the ceteris paribus conditions. C is incorrect because the fact that a good is a normal good alone does not mean the demand curve would shift. A change income levels would cause the demand curve to shift.
33. C – Gatorade and Powerade are substitutes.
34. B – Buy more whiskey now. This problem is related to the material on expectations of future prices.
35. A – The only thing that will cause a change in the quantity demanded is a change in the goods own price.
36. C – The increase in the cost of plastic is an increase in the cost of an input for the supplier. An increase in the cost of an input will cause an inward shift of the supply curve.

37. B – Although you may personally disagree, we know Schlitz is an inferior good in this problem because we choose to consume less of it as our income rises.
38. A – Gatorade is a normal good because you will consume less of it as your income goes down.
39. A – To solve this problem we will want to find the point where $Q_D = Q_S$

    $230 – 5P = 20 + 2P$

    $210 = 7P$

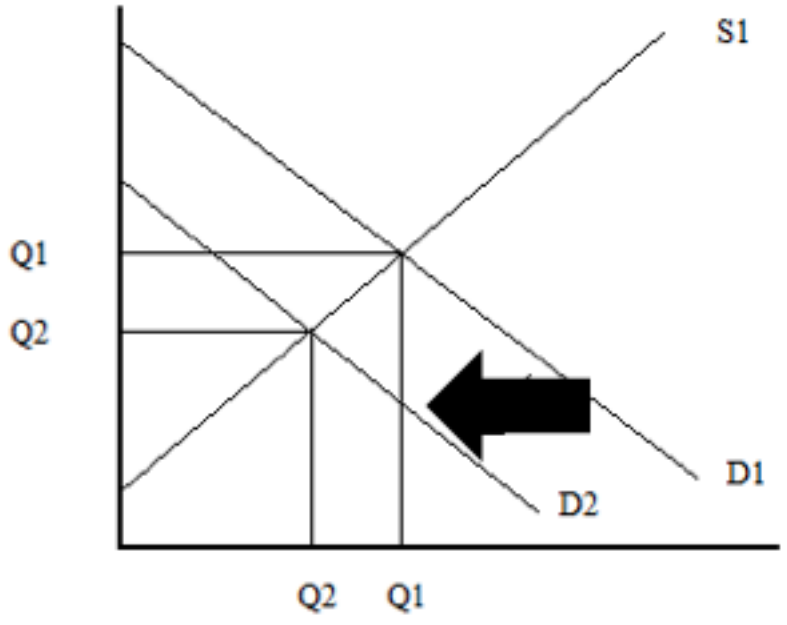
    $P = 30$

    The price of $30 is the equilibrium price because it is the price where supply and demand are equal. By definition at a price of $30 Q_D and Q_S will be equal. So we can plug $30 into either the Q_D or the Q_S equation to find the equilibrium quantity. Additionally if you want to check you did this problem correctly you can plus $30 into both equations to ensure $30 is the equilibrium price.

    $Q_D = 230 – 5(30) = 80$

    $Q_S = 20 + 2(30) = 80$

40. D – Movement along the supply curve.
41. C – The point where the supply and demand curves intersect.
42. D – "Other things constant"
43. D – The only thing that would cause both the equilibrium price and quantity to decrease would be for the demand curve to shift inward to the left.



44. C – Unintended consequences are the result of not fully understanding the effect of an incentive
45. C – The purpose of the airline regulation was to make airline travel safer for children; however, the unintended consequence was that families are now driving more instead of flying
46. B – The opportunity cost of their time
47. C – Thinking that association is causation because the third string doesn't cause the team to win. The third string gets to play when the team already has a huge lead and is pretty much guaranteed to win.
48. B – Endogenous
49. C – Good are mutually exclusive because producing more of one good requires that less of the other good is produced.
50. C – Japan's PPC will expand outward because investing in infrastructure is the same thing as saying they are investing in capital good.
51. D – None of the above because a high unemployment rate results in producing at an inefficient point inside of the PPC; however, it does not cause the PPC to shift or movement along the curve.
52. D – Comparative advantage because your friend be better if he specialized where he had a comparative advantage and then traded with others who had comparative advantages in other areas.
53. D – A shortage of 60 units because at a price of $50 demand is 80 units while supply is only 20 units.
54. C – The value of whatever you would have done if you did not go to the football game because opportunity cost is the value of your next best alternative.
55. B – The opportunity cost of missing the game winning touchdown pass; the value of whatever you would have done during that time.
56. B – Charging higher fines for speeding because will provide the strongest incentive not to speed.
57. C – Offer lower tuition to in-state students because this will give in-state students the strongest incentive to stay in state.
58. B – When checking out at the grocery store, people always choose the line that appears to have the shortest wait. We don't need someone telling us which line to pick. The system operates efficiently without regulation or oversight.
59. D – Not having all of the resources needed to produce all of the goods and services society wants.
60. D – The pizza oven as it is equipment used to make pizza.
61. C – Ron will accept the job if he values closeness to a good lumber supply more than $5,000 a year.
62. C – The internet decreases the amount of time consumers have to spend looking for product information.
63. C – The increase in the cost of plastic is an increase in the cost of an input for the supplier. An increase in the cost of an input will cause an inward shift of the supply curve.

64. A – To solve this problem we will want to find the point where $Q_D = Q_S$

$230 – 5P = 20 + 2P$

$210 = 7P$

$P = 30$

The price of $30 is the equilibrium price because it is the price where supply and demand are equal. By definition at a price of $30 Q_D and Q_S will be equal. So we can plug $30 into either the Q_D or the Q_S equation to find the equilibrium quantity. Additionally if you want to check you did this problem correctly you can plus $30 into both equations to ensure $30 is the equilibrium price.

$Q_D = 230 – 5(30) = 80$

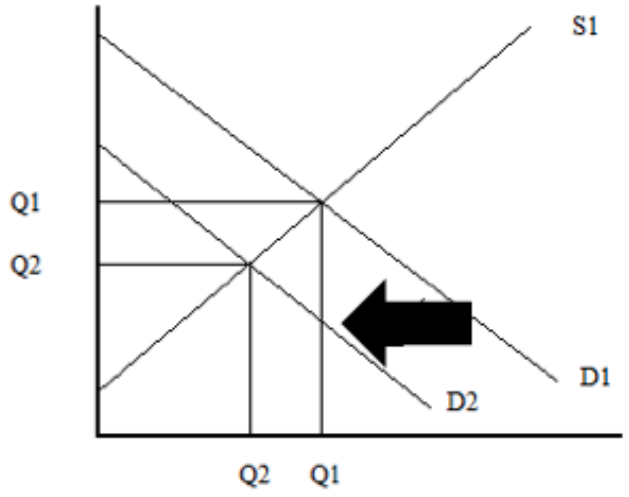
$Q_S = 20 + 2(30) = 80$

65. C – Price is undeterminable, Quantity will increase. See this section in the review packet.

66. D – Movement along the supply curve.

67. C – The point where the supply and demand curves intersect.

68. D – The only thing that would cause both the equilibrium price and quantity to decrease would be for the demand curve to shift inward to the left.



69. B – The price of the good will rise because excess demand is the same thing as saying there is a shortage.

70. D – A shortage of 60 units because at a price of $50 demand is 80 units while supply is only 20 units.

71. D – The minimum price that can be legally charged for a product.

72. D - $6 because at $6 the quantity supplied will exceed the quantity demanded.

73. B – Paying some of the wheat farmers not to produce wheat.

74. A – There would be no change and the equilibrium would prevail. This is because the price floor is below the equilibrium price of $3. The price floor says sellers cannot charge a price below $2; however, the equilibrium price is $3 so the price floor is non-binding.

75. D – There would be a shortage of 1,000 pieces of pizza because the price ceiling is below the equilibrium price of $3. At a price of $2, quantity demanded exceeds quantity supplied by 1,000 units (2,000 – 1,000 = 1,000).

76. D – The one with the lowest opportunity cost.

Short answer:

1. $2 per hour

   In this problem biking to NYC is $40 cheaper than taking the bus ($60 - $20 = $40); however it will take 20 hours longer to bike than take the bus (25hrs – 5hrs = 20hrs). This means that if you spend the extra $40 to take the bus you will save yourself 20 hours of travel time. If you value your time at $2 an hour you will be indifferent between biking and taking the bus ($40/20hrs = $2 per hr). If you value your time at more than $2 an hour you should take the bus and if you value your time at less than $2 an hour you should bike.

2. To find the equilibrium price and quantity you need to Qd = Qs.

   $400 – 10P = 100 + 20P$
   $300 = 30P$
   $P = 10$

   Now you can plug P back into either the Qd or Qs equation to find the equilibrium quantity. Since $10 is the price that makes Qd and Qs equal is doesn't matter which equation you plug $10 back into. However, a good way to check that you got this problem correct is to plug the value you found for P back into both equations. If both equations give you the same Q it is very likely you have the correct answer.

   $Qd = 400 – 10(10) = 300$

   $Qs = 100 + 20(10) = 300$

3. Carl should drink beer and Lenny should meditate

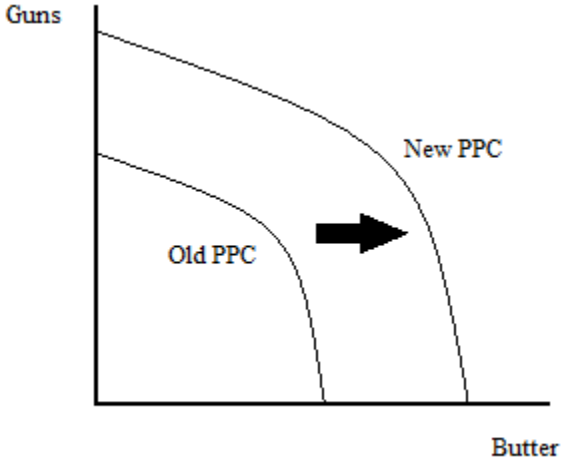
We can see that Carl does have an absolute advantage in both drinking beer and meditating, but remember we decide how to specialize our skills based on comparative advantage not absolute advantage. There are still ways Lenny and Carl can work together to maximize their total production through specialization. Your comparative advantage is where you have the lowest opportunity cost.

We can see that if Lenny were to drink all beer and not meditate he would be able to consume 8 beers. If Lenny only meditated he would be able to meditate 16 times. So we can see that Lenny has a 2:1 tradeoff (16 ÷ 8) between meditating and drinking beer. Every beer Lenny drinks costs him 2 meditations.

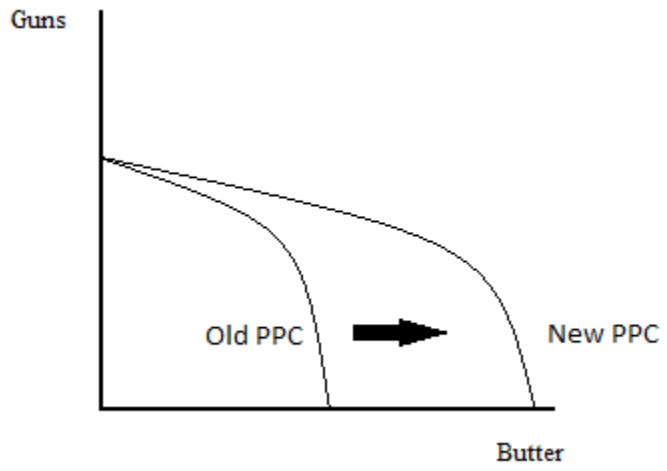
We can see that if Carl were to drink all beer and not meditate he would be able to consume 24 beers. If Carl only meditated he would be able to meditate 24 times. So we can see that Carl has a 1:1 tradeoff between meditating and drinking beer. Every beer Carl drinks on costs him 1 meditation. Thus Carl has the lower opportunity cost of drinking beer since he only has to give up 1 meditation to drink a beer while Lenny has to give up 2 meditations to drink one beer.

Another way to look at this type of problem is to see that Carl can complete 1.5 times the amount of meditations as Lenny, but he can drink 3 times as many beers as Lenny. Thus we can see that Carl has a comparative advantage in drinking beer.

4. The improvement in technology for <u>both</u> guns and butter will cause the PPC to shift outward:



5. In this problem only the technology for producing butter is increasing. When this is the case you will keep the intercept for guns in the same place, but you will shift the intercept for butter outward.



6. **Opportunity cost of moving from point C to D = 80 sticks of butter**

   Make sure that you read this question carefully. We are moving from point C to point B. This means that we will need to give up 80 sticks of to produce 60 more guns. Since we are giving up 80 sticks of butter to move from point C to point B, the opportunity cost of the move is 80 sticks of butter.

   Note that if the question had asked what the opportunity cost of moving form point B to point C was, the answer would have been 60 guns because you are giving up making 60 guns to move from B to C. It is important to pay attention to which way you are moving along the PPC.

   Inefficient point = Point E

   Unattainable point = Point F

7. **A change in any of these factors will shift the <u>demand</u> curve –** Income, taste and preferences, prices of related goods, consumer's expectations of future prices and incomes, and the market size

   A change in any of these factors will shift the <u>supply</u> curve – Prices of resources and inputs used to produce products, technology and productivity, taxes and subsidies, producer's price expectations, the number of firms in the industry

8. Demand for Gatorade will not be affected. Plastic is an input used to make Gatorade. A change in the cost of an input will shift the supply curve for Gatorade, but it will not affect the demand curve for Gatorade.

9. If Rob picks all mangos, he can pick 40 mangos. If Rob picks all bananas, he can pick 160 bananas. This means that for every mango Rob picks, he is giving up picking 4 bananas (160 / 40 = 4). So Rob's opportunity cost of picking one mango is 4 bananas.

10. 5/6 tons of mangos

    Opportunity cost of 1 ton of bananas = Loss in mangos / Gain in bananas
    Opportunity cost of 1 ton of bananas = 10 / 12 = 5/6 tons of mangos

11. 5 tons of mangos

    Opportunity cost of 1 ton of bananas = Loss in mangos / Gain in bananas
    Opportunity cost of 1 ton of bananas = 10 / 2 = 5 tons of mangos

12. The opportunity cost of producing bananas increases as the output of bananas increases.

13. To find the equilibrium price and quantity you need to Qd = Qs.

    400 – 10P = 100 + 20P
    300 = 30P
    P = 10

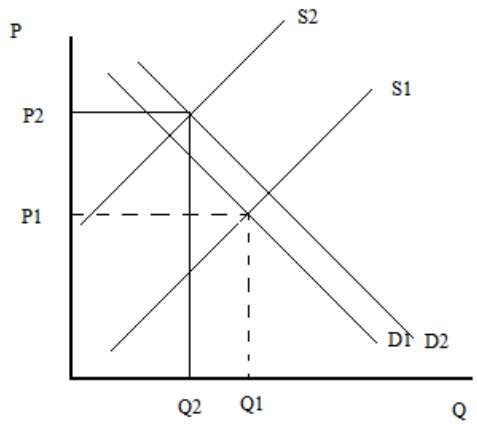
    Now you can plug P back into either the Qd or Qs equation to find the equilibrium quantity. Since $10 is the price that makes Qd and Qs equal is doesn't matter which equation you plug $10 back into. However, a good way to check that you got this problem correct is to plug the value you found for P back into both equations. If both equations give you the same Q it is very likely you have the correct answer.

    Qd = 400 – 10(10) = 300

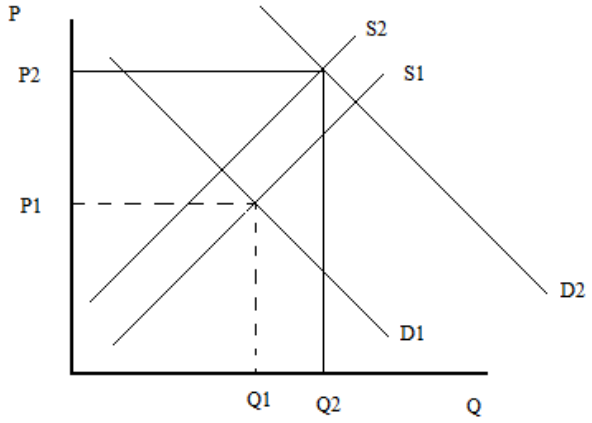
    Qs = 100 + 20(10) = 300

14. Price – Increase; Quantity – Cannot be determined

The trick to solving these problems is drawing 2 graphs. In the 1st graph you shift demand a little bit and supply a lot. When you do this you can see that Price is increasing while Quantity is decreasing.



In the 2nd graph you will shift demand a lot and quantity only a little. In this graph you can see that both price and quantity are increasing.



Since price is increasing in both graphs you know that price will increase. Since quantity decreases in the first graph and increases in the 2nd graph quantity cannot be determined based on the information you have been given.

15. To find the equilibrium price and quantity, you need to set Qd = Qs.

    400 – 10P = 100 + 20P
    300 = 30P
    P = 10

    Now you can plug P back into either the Qd or Qs equation to find the equilibrium quantity. Since $10 is the price that makes Qd and Qs equal, it doesn't matter which equation you plug $10 back into. However, a good way to check that you got this problem correct is to plug the value you found for P back into both equations. If both equations give you the same Q, it is very likely you have the correct answer.

    Qd = 400 – 10(10) = 300

    Qs = 100 + 20(10) = 300

    Will there be a shortage or a surplus if the price of this good is $7? Will the price of the good rise or fall over time?

    Qd = 400 – 10(P)
    Qd = 400 – 10(7) = 330

    Qs = 100 + 20(P)
    Qs = 100 + 20(7) = 240

    There is a <u>shortage</u> of 90 units (330 – 240 = 90) because Qd is greater than Qs. We expect the price of the good to <u>rise</u> over time.

    Will there be a shortage or a surplus if the price of this good is $12? Will the price of the good rise or fall over time?

    Qd = 400 – 10(12) = 280

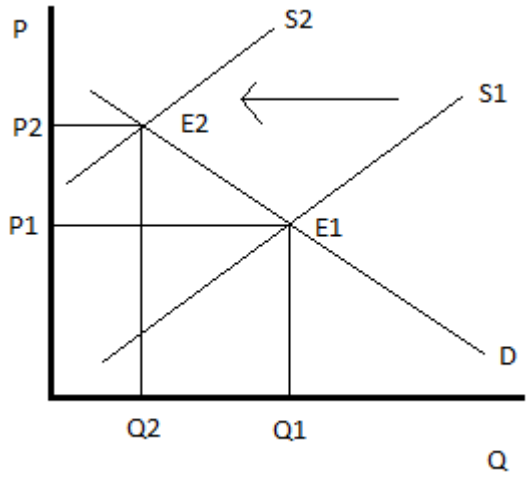
    Qs = 100 + 20(12) = 340

    There is a <u>surplus</u> of 60 units (340 – 280 = 60) because Qs is greater than Qd. We expect the price of the good to <u>fall</u> over time.

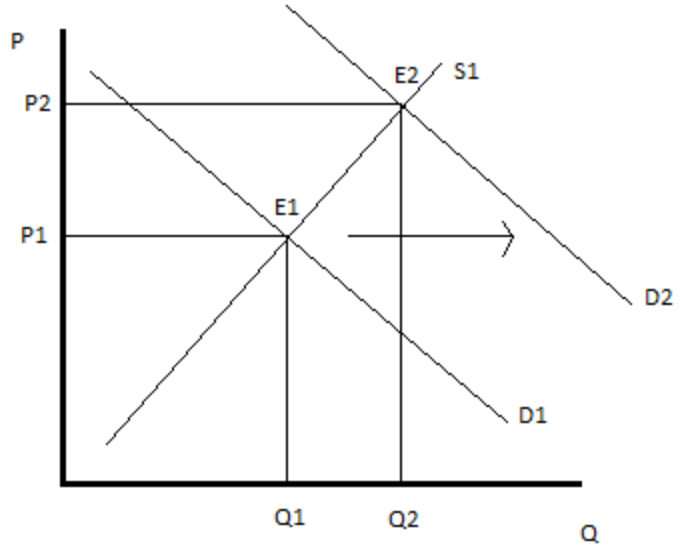
16. Reasons for rent control: Provides more affordable housing to lower income individuals, and it allows people to find affordable housing in the city so they don't have to commute.

    Reasons against rent control: Black markets often appear, apartments are not well maintained, there is a severe shortage of units available, there is no incentive to build new units over time due to low prices.

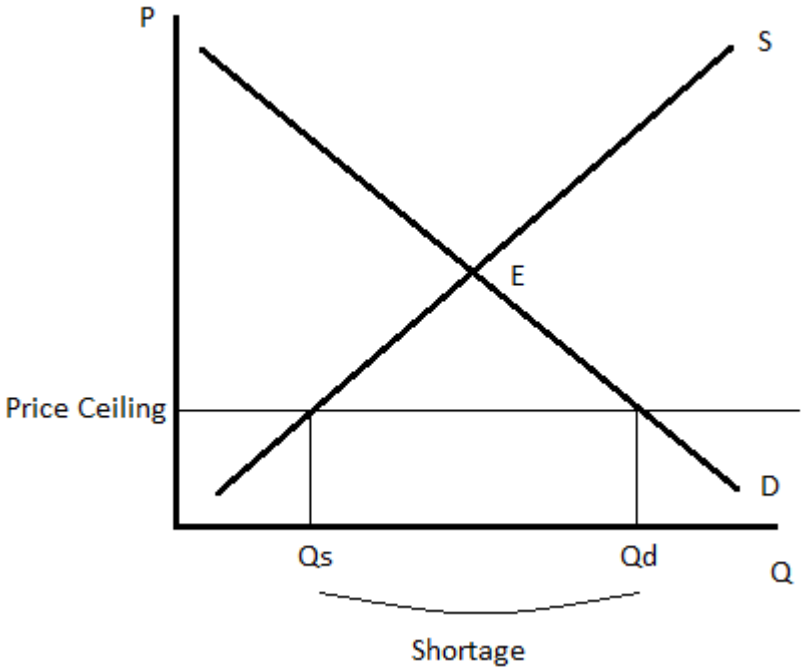
17. A change in the cost of inputs used to make a product will shift the supply curve inward to the left. Make sure to show the shift with an arrow pointing left (not up or down). Shifts of the supply and demand curves are <u>always</u> shown as right or left shifts.



18. An increase in the income level of the general population will cause the demand cure to shift outward to the right.

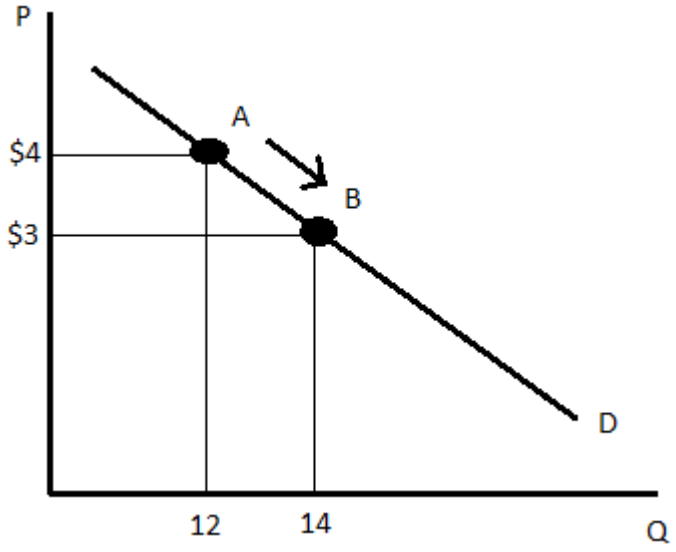


19. The price ceiling will result in a shortage because the quantity supplied will be less than the quantity demanded.



20. The demand curve is downward sloping with quantity on the horizontal axis and price on the vertical axis. A decrease in the good's own price will cause an **increase in <u>quantity</u> demanded**. You can use the equation Qd = 20 – 2P to find the Qd at a price of $4 and $3. Make sure you include an arrow showing which way we are moving along the curve.

Qd = 20 – 2($4) = 12
Qd = 20 – 2($3) = 14



21. The first thing to do is solve for the equilibrium price and quantity for last year and then this year.

<u>Last Year</u>
Qs = Qd
6 + 2P = 90 – 2P
4P = 84
P = 21

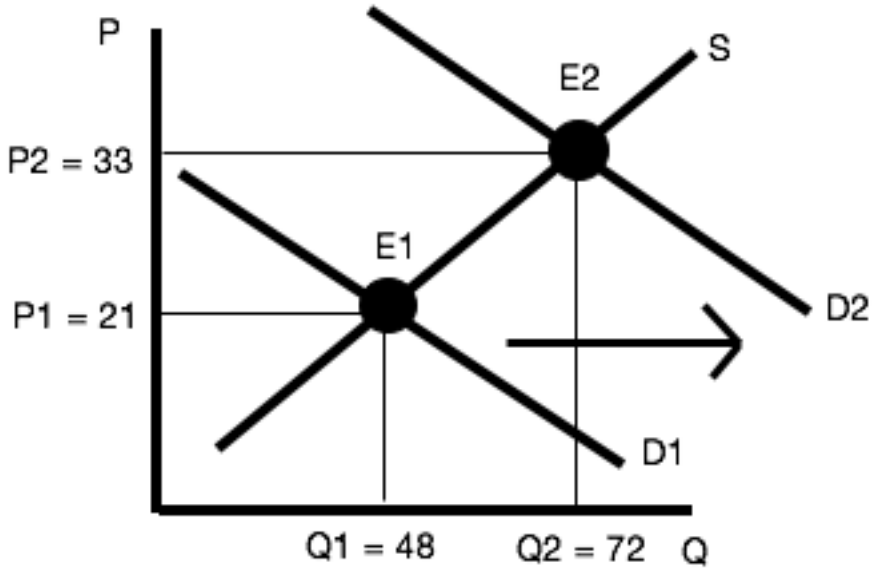
Qs = 6 + 2(21) = 48
Qd = 90 – 2(21) = 48

P* = 21, Q* = 48

<u>This Year</u>
Qs = Qd
6 + 2P = 138 – 2P
4P = 132
P = 33

Qs = 6 + 2(33) = 72
Qd = 138 – 2(33) = 72

P* = 33, Q* = 72



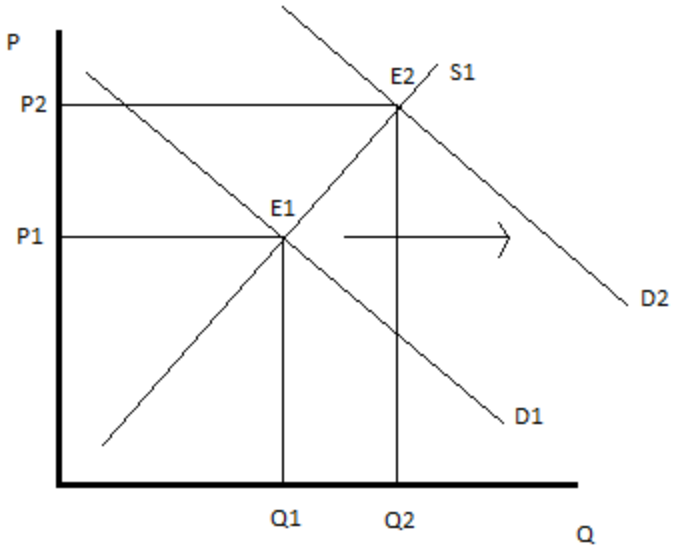
22. Decreasing the good's own price will result in movement to the right along the demand curve. Demand is unchanged; however, quantity demanded will increase.

	Increased	Decreased	No Change
Demand			x
Quantity Demanded	x		

23. Increasing the good's own price will result in movement to the right along the supply curve. Supply is unchanged; however, quantity supplied will increase.

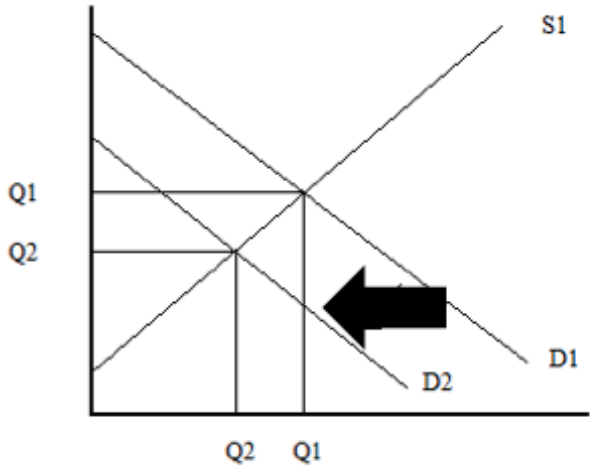
	Increased	Decreased	No Change
Supply			x
Quantity Supplied	x		

24. The increased market size will cause demand to shift outward to the right. Quantity demanded will increase because the equilibrium quantity has increased.



	Increased	Decreased	No Change
Demand	x		
Quantity Demanded	x		

25. Hot dogs and buns are complements. This will cause demand for hot dogs to shift inward to the left. Quantity demanded will decrease because the decrease in demand will cause the equilibrium quantity to decrease.



	Increased	Decreased	No Change
Demand		x	
Quantity Demanded		x	

26. The supply curve does not shift; however, the demand curve shifting inward causes the quantity supplied to decrease.

	Increased	Decreased	No Change
Supply			x
Quantity Supplied		x	