

Print your name clearly on the answer sheet. Write and fill in the bubbles for your student number on the answer sheet. Include the dash of your student number in the first space and fill in the zero bubble to correspond with the dash. **Write your exam's version number on the answer sheet next to your name** (the number is found at the bottom of this page).

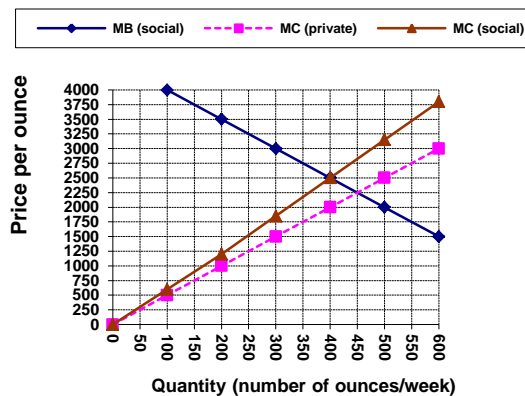
IF YOU FILL OUT THE STUDENT NUMBER OF THE BUBBLE SHEET INCORRECTLY, YOUR EXAM SCORE WILL BE CUT BY 5 POINTS.

Mark your answers on the answer sheet. Bring this copy of the test, your answer sheet, and your photo ID with you when turning in your test.

No calculators are allowed in the exam and your answers to the test should consist entirely of your own work. Cheating will result in an "F" grade for the entire class and as much public humiliation as is legal.

Answers will be posted on the class web site as soon as possible. GOOD LUCK and have a GREAT HOLIDAY BREAK!

- Kennedy likes to sew. She faces a constant rate of tradeoff between sewing skirts and pants. In one day, she can sew either 2 pairs of pants or 3 skirts. Given this information, Kennedy's opportunity cost of sewing a skirt is ___.
 - 2 pairs of pants
 - 2/3 pair of pants
 - 3/2 pair of pants
 - 3 pairs of pants



- Suppose that the market for marijuana is shown in the graph above, where MC (private) represents the private supply curve and MC(social) represents the social supply curve that reflects the full social marginal costs of marijuana. MB(social) is the demand curve and represents the private and social marginal benefits of marijuana. To reach the socially optimal level of marijuana use, the government could
 - Give consumers a subsidy of \$500 per ounce
 - Impose a tax of \$500 per ounce
 - Impose a tax of \$250 per ounce
 - Impose a tax of \$750 per ounce
 - Do nothing since the market will automatically generate the efficient amount of marijuana use

3. All else equal, an increase in the price of Pepsi Cola is expected to
 - a. Increase the demand for Coca Cola
 - b. Decrease the demand for Coca Cola
 - c. Increase the demand for Pepsi Cola
 - d. Decrease the demand for Pepsi Cola
 - e. Answers a and d are both correct

4. All else equal, the demand for a normal good rises when
 - a. the price of the good falls
 - b. the costs of production of the good fall
 - c. consumer incomes increase
 - d. the price of a substitute good falls
 - e. the price of a compliment good rises

Quantity of Pollution Reduction (tons/day)	Marginal Cost of Pollution Reduction (\$)	
	Mess it up Manufacturing	Fancy Fabricators
1	0	100
2	25	150
3	50	200
4	75	250

5. The table above describes a local manufacturing industry made up of two firms. The manufacturing process used by the firms generates emissions of pollution into the local environment. The numbers in the table show the marginal cost of reducing each ton of pollution for each of the firms. If the EPA reduces total pollution emissions for the industry by 4 tons per day at the lowest possible cost, the cost of pollution reduction for the industry would be ___ per day.
 - a. \$75
 - b. \$275
 - c. \$150
 - d. \$325

6. Beau and Buff are roommates who are deciding how to share cleaning tasks. Beau can wash 6 windows in an hour or vacuum 6 rooms in an hour. Buff can wash 10 windows in an hour or vacuum 8 rooms in an hour. In order to most efficiently use their hour of cleaning time, _____ should clean windows and _____ should vacuum rooms.
 - a. Buff; Beau
 - b. Beau; Buff
 - c. both roommates; both roommates
 - d. Buff; both roommates

7. With regard to pollution, from an economist's perspective
 - a. we should strive to reduce pollution to the point where the marginal cost of pollution reduction equals the marginal benefit of pollution reduction
 - b. reducing pollution is a waste of time since it is not counted as part of national income
 - c. we should strive to reduce pollution as much as possible
 - d. we should strive to reduce pollution as long as the marginal benefit of doing so is positive

8. Ceteris paribus, when the government engages in price supports for agricultural products,
 - a. shortages of agricultural output are likely to generated
 - b. the economically efficient amount of agricultural output is likely to be generated
 - c. prices of agricultural goods are likely to be lower than they would be otherwise
 - d. surpluses of agricultural goods are likely to be generated

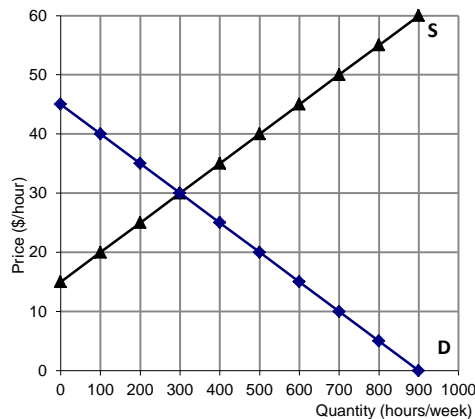
Elves/hour	Total Product (toys/hour)
0	0
1	50
2	80
3	100
4	110
5	115
6	118

9. Santa Claus hires elves to produce toys according to the production function in the table above. Santa prices his toys at \$10 each and elf wages are \$75 per hour. Elf wages represent Santa's only cost of production. Based on this information, what is *total revenue* when Santa hires 5 elves per hour?

- a. 115 toys per hour
- b. \$115 per hour
- c. \$1150 per hour
- d. \$775 per hour
- e. \$50 per hour

10. The equilibrium price of renting a booth at the Gallatin Valley Farmer's Market is \$10 per day. The Bozeman Organic Growers' Association has petitioned the Farmer's Market Management Board to impose a price ceiling of \$5 per day for booth space. All else equal, if the Farmer's Market Management Board adopts the price ceiling of \$5, we would expect that

- a. There will be a shortage of booth space at the Farmer's Market
- b. All organic growers at the Farmer's Market will be better off
- c. There will be a surplus of booth space at the Farmer's Market
- d. The market for booth space will reach equilibrium
- e. Both b and d are correct



11. The figure above illustrates the demand and supply of Economics 101 tutoring services at MSU during finals week. If MSU gets a grant to hire more tutors for Economics 101, a possible new equilibrium would be

- a. P = \$20, Q = 100 hours per week
- b. P = \$20, Q = 500 hours per week
- c. P = \$40, Q = 100 hours per week
- d. P = \$40, Q = 500 hours per week
- e. not enough information

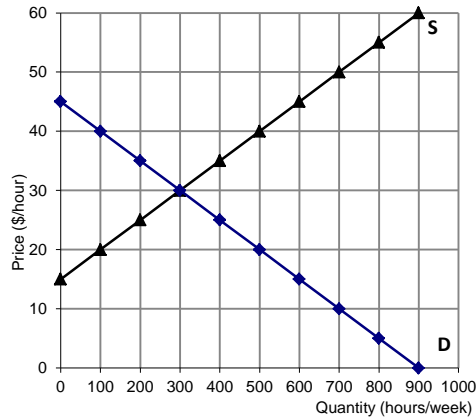
12. Roughly what portion of income is earned by the bottom 20% of households in the US income distribution?
- 3 percent
 - 20 percent
 - 25 percent
 - 50 percent
 - 80 percent
13. High speed internet providers have been rapidly expanding their services to more and more locations throughout the world. As high speed internet service becomes more widely available, we would expect the price of high speed internet service to
- decrease due to a decrease in supply
 - increase due to an increase in demand
 - decrease due to a decrease in demand
 - decrease due to an increase in supply
 - increase due to an increase in supply
14. Professional basketball players make significantly higher salaries than do high school teachers in the United States. Which of the following statements about this information is true?
- The higher salaries of basketball players are a reflection of the higher total value that Americans place on services of basketball players than on the services of high school teachers.
 - The higher salaries of basketball players are a reflection of the higher marginal value that Americans place on services of basketball players than on the services of high school teachers.
 - The higher salaries of basketball players are a reflection of their higher value of marginal product relative to that of high school teachers.
 - The higher salaries of basketball players are a reflection of the higher supply of basketball players relative to high school teachers.
 - Both b and c are true
15. Your friend tells you that it is not fair that professors at major universities make significantly less than most quarterbacks on professional sports teams. Applying the economic way of thinking, you would argue that the situation is fair because
- Athletes have more expensive tastes than professors and must make more to live comfortably
 - Professors do not know how to play sports because they spent too much time studying
 - There is higher demand for professors
 - A person is more likely to pay \$75.00 to see an athlete than hear a professor lecture
16. All else equal, if China places a tariff on grain, who is likely to be harmed by the tariff?
- Chinese grain consumers
 - Chinese grain producers
 - Foreign grain consumers
 - Foreign grain producers
 - Both a and d are correct
17. Suppose that a computer manufacturing plant is petitioning the city of Bozeman to begin production in the area. The manufacturing plant will bring jobs to the area, but it will also generate pollution. All else equal, if the city allows the manufacturing plant to locate here and does not regulate their production or pollution emissions,
- the manufacturer is likely to produce the optimal amount of pollution from a social efficiency perspective
 - the manufacturer is likely to produce more than the optimal amount of pollution from a social efficiency perspective
 - the manufacturer is likely to produce less than the optimal amount of pollution from a social efficiency perspective
 - the manufacturer is not likely to produce pollution

18. All else equal, imposing a tariff on a good imported to the U.S. will typically
- lower the price received by U.S. producers of the good
 - raise the price paid by U.S. consumers of the good
 - not impact the price received by foreign producers of the good
 - increase the overall quantity of the good sold in the U.S.

Quantity of Pollution Reduction (tons/day)	Marginal Cost of Pollution Reduction (\$)	
	Mess it up Manufacturing	Fancy Fabricators
1	0	100
2	25	150
3	50	200
4	75	250

19. The table above describes a local manufacturing industry made up of two firms. The manufacturing process used by the firms generates emissions of pollution into the local environment. The numbers in the table show the marginal cost of reducing each ton of pollution for each of the firms. If the EPA requires each firm to reduce its daily emissions by 2 tons, the total cost of pollution reduction for the whole industry would be ___ per day.
- \$175
 - \$275
 - \$150
 - \$25
20. All else equal, it is harder to raise taxes on a good without also generating large reductions in sales of the good when
- the demand for the good is constant
 - the demand for the good is high
 - the demand for the good is inelastic
 - the demand for the good is elastic
 - the demand for the good is low
21. Suppose that the Bozeman city council imposes a “tourist tax” on hotel rooms in Bozeman. The tax raises the price of renting hotel rooms in Bozeman by 5% and causes the quantity of Bozeman hotel rooms demanded to fall by 10%. *Ceteris paribus*, we can conclude that the demand for hotel rooms in Bozeman is
- 0.5, inelastic
 - 0.5, elastic
 - 2, elastic
 - 2, inelastic
22. Suppose that the Bozeman city council imposes a “tourist tax” on hotel rooms in Bozeman. The tax raises the price of renting hotel rooms in Bozeman by 5% and causes the quantity of Bozeman hotel rooms demanded to fall by 10%. *Ceteris paribus*, we can predict that
- The demand for hotel rooms in the nearby towns of Belgrade and Livingston will fall
 - The demand for hotel rooms in the nearby towns of Belgrade and Livingston will rise
 - The supply of hotel rooms in the nearby towns of Belgrade and Livingston will fall
 - The supply of hotel rooms in the nearby towns of Belgrade and Livingston will rise
23. Other things equal, eliminating quotas that restrict imports of foreign sugar into the US is likely to
- reduce the domestic price of sugar
 - increase the incomes of US sugar producers
 - raise the domestic prices of sugar
 - reduce the quantity of sugar purchased in the US

24. It is profit maximizing for firms to hire an additional worker as long as
- the value of marginal product of the additional worker is positive
 - the marginal cost of the additional worker is above zero
 - the value of marginal product of the additional worker is less than the wage
 - the value of marginal product of the additional worker is greater than the wage
 - the additional worker is productive
25. At the current level of production, the marginal social cost of producing norovirus vaccines is \$40, the marginal private cost of producing norovirus vaccines is \$35 and the marginal social benefit of producing norovirus vaccines is \$45, then the production of norovirus vaccines is
- below the socially optimal level
 - equal to the socially optimal level
 - above the socially optimal level
 - tangent to the socially optimal level
 - Not enough information
26. Since the 1970s, the share of income earned by the bottom quintile of households in the US income distribution has ____ and the share of income earned by the top quintile of households has ____.
- risen; fallen
 - risen; stayed the same
 - fallen; risen
 - stayed the same; risen
 - risen; risen
27. MSU football fans love to watch Bobcat home football games in the stadium as well as on large screen TVs in local bars and restaurants. *Ceteris paribus*, when local bars and restaurants offer low-price food and drink specials during Bobcat home football games,
- the demand for tickets to watch MSU football games in the stadium will fall and MSU's football ticket sales revenue will rise
 - the demand for tickets to watch MSU football games in the stadium will rise MSU's football ticket sales revenue will rise
 - the demand for tickets to watch MSU football games in the stadium will fall and MSU's football ticket sales revenue will fall
 - the demand for tickets to watch MSU football games in the stadium will rise and MSU's football ticket sales revenue will fall



28. The figure above illustrates the demand and supply of Economics 101 tutoring services at MSU during finals week. In a misguided attempt to help low-income Economics 101 students, suppose that MSU administrators decree that tutors cannot charge more than \$20 per hour for Economics 101 tutoring at MSU. This policy will cause
- a shortage of tutoring services at MSU and a deadweight loss of student welfare of \$2250 per week
 - a surplus of tutoring services at MSU and a deadweight loss of student welfare of \$2000 per week
 - a shortage of tutoring services at MSU and a deadweight loss of student welfare of \$2000 per week
 - a surplus of tutoring services at MSU and a deadweight loss of student welfare of \$2250 per week
 - an increase in the well-being of Economics 101 students since they will now pay less for tutoring services

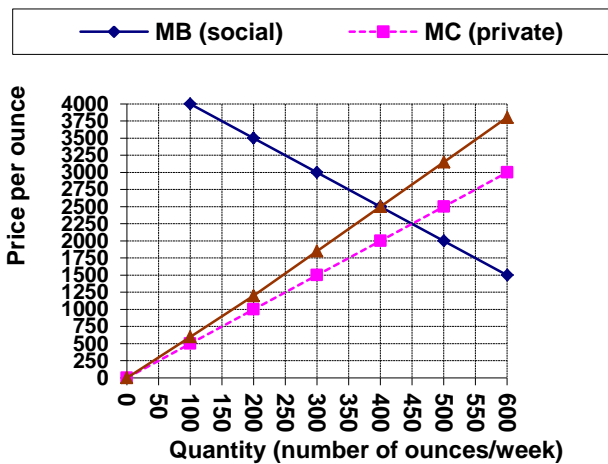
Elves/hour	Total Product (toys/hour)
0	0
1	50
2	80
3	100
4	110
5	115
6	118

29. Santa Claus hires elves to produce toys according to the production function in the table above. Santa prices his toys at \$10 each and elf wages are \$75 per hour. Based on this information, what is the optimum number of elves for Santa to hire?
- 5 per hour
 - 6 per hour
 - 3 per hour
 - 4 per hour
 - 2 per hour
30. If the price of a good rises and the total amount that consumers spend on the good rises, then demand for the good must be
- relatively elastic
 - relatively inelastic
 - unit elastic
 - unit inelastic

Quantity Demanded (dozens/week)	Price (\$/dozen)	Quantity Supplied (dozens/week)
140	6	0
120	7	15
100	8	30
80	9	45
60	10	60
40	11	75
20	12	90
0	13	105

31. The table above shows the demand and supply for huckleberry bagels at the BagelWorks bagel shop in Bozeman, Montana. At equilibrium, the price of huckleberry bagels is ___ per dozen and total revenue earned from huckleberry bagel sales ___ per week.

- a. \$60; \$60
- b. \$10; \$60
- c. \$60; \$1000
- d. \$10; \$600



32. Suppose that the market for marijuana is shown in the graph above, where MC(private) represents the private supply curve and MC(social) represents the social supply curve that reflects the full social marginal costs of marijuana. MB(social) is the demand curve and represents the private and social marginal benefits of marijuana. Without intervention, ___ ounces of marijuana will be traded per week at a price of ___ per ounce.

- a. 400; \$2500
- b. 400; \$2000
- c. 450; \$2250
- d. 450; \$2000

33. If it takes country B four units of labor to produce a computer and three units of labor to produce a TV and it takes country A three units of labor to produce a computer and two units of labor to produce a TV, then country A has

- a. a comparative advantage in both goods
- b. a comparative advantage in computers
- c. a comparative advantage in neither good
- d. a comparative advantage in TVs
- e. the law of decreasing opportunity cost

34. Decreasing costs of production have made it cheaper to produce medical marijuana. At the same time, the demand for medical marijuana has increased. Ceteris paribus, what can we say about the equilibrium price and quantity of medical marijuana as a result of these two changes?

- a. price will fall and quantity will rise
- b. quantity will fall, but the effect on equilibrium price is unknown
- c. price will rise and quantity will rise
- d. quantity will rise, but the effect on equilibrium price is unknown
- e. the effects on both equilibrium price and equilibrium quantity are unknown

Quantity Demanded (dozens/week)	Price (\$/dozen)	Quantity Supplied (dozens/week)
140	6	0
120	7	15
100	8	30
80	9	45
60	10	60
40	11	75
20	12	90
0	13	105

35. The table above shows the demand and supply for huckleberry bagels at the BagelWorks bagel shop in Bozeman, Montana. In equilibrium, the consumer surplus from huckleberry bagel consumption is

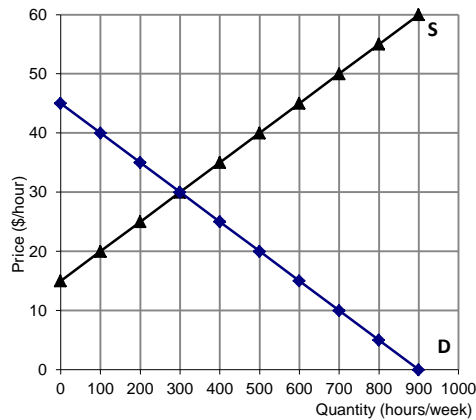
- a. $.5 \times 60 \times \$13 = \390 per week
- b. $.5 \times 60 \times \$10 = \300 per week
- c. $.5 \times 60 \times \$3 = \90 per week
- d. $.5 \times 60 \times \$6 = \180 per week
- e. \$0 since there is no consumer surplus in equilibrium

Elves/hour	Total Product (toys/hour)
0	0
1	50
2	80
3	100
4	110
5	115
6	118

36. Santa Claus hires elves to produce toys according to the production function in the table above. Santa prices his toys at \$10 each and elf wages are \$75 per hour. Based on this information, how many toys can Santa produce when he hires 4 elves per hour?

- a. 10 toys per hour
- b. \$100 per hour
- c. \$1100 per hour
- d. 110 toys per hour
- e. Not enough information since we do not know the marginal product of labor for elves

37. All else equal, a decrease in the supply of movies will _____ the equilibrium price of movies and ____ the equilibrium quantity of movies:
- increase; decrease
 - increase; increase
 - decrease; increase
 - decrease; decrease



38. The figure above illustrates the demand and supply of Economics 101 tutoring services at MSU during finals week. If MSU students begin to use online tutoring rather than MSU-based tutoring services, a possible new equilibrium would be

- $P = \$20, Q = 100$ hours per week
- $P = \$20, Q = 500$ hours per week
- $P = \$40, Q = 100$ hours per week
- $P = \$40, Q = 500$ hours per week
- not enough information

39. Suppose that when the price of salads increases, the demand for soup increases. This indicates that these two goods are:

- unrelated goods
- inferior goods
- substitute goods
- complement goods

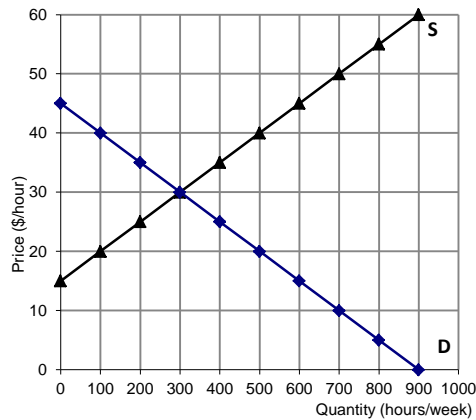
40. Suppose the price elasticity of demand for computers is -2.5 and that the market is currently in equilibrium. If the price of computers is decreased by 1%, the quantity of computers demanded will:

- rise by 25%
- fall by 25%
- rise by 2.5%
- fall by 2.5%
- none of the above

41. In a market capitalist economy:

- resources are privately owned but government exercises broad power over their use
- resources are government owned but individuals make decisions over their use
- resources are government owned and government exercises broad power over their use
- resources are privately owned and individuals make decisions over their use
- none of the above

42. When demand for a good is relatively inelastic, there are relatively _____ substitutes available, and quantity demanded is _____ to price changes.
- many; highly responsive
 - many; not very responsive
 - few; highly responsive
 - few; not very responsive



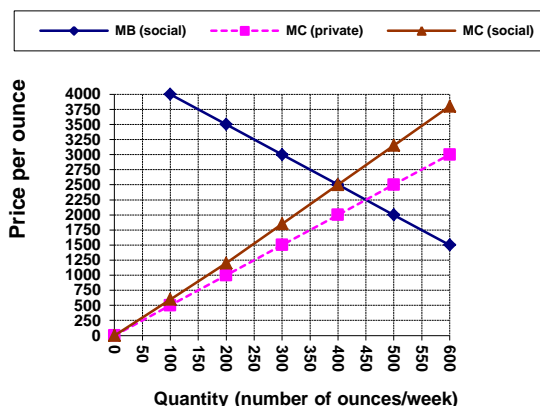
43. The figure above illustrates the demand and supply of Economics 101 tutoring services at MSU during finals week. Given this information, when $P = \$40$, total revenue is \$ ___ per week. When $P = \$35$, total revenue is \$ ___ per week. Between $P = \$40$ and $P = \$35$, the price elasticity of demand is ___.

- \$0; \$0; elastic
 - \$4000; \$7000; elastic
 - \$4000; \$7000; inelastic
 - \$20000; \$14000; elastic
 - \$20000; \$14000; inelastic
44. A decrease in the supply of fast food restaurant workers could be the result of
- higher wages paid to workers in other types of restaurants
 - lower wages paid to fast food restaurant workers
 - lower wages paid to workers in other types of restaurants
 - decreased demand for fast food
 - higher wages paid to fast food restaurant workers
45. Which of the following will lead to an increase in the equilibrium quantity but a decrease in the equilibrium price of beer, ceteris paribus?
- An increase in beer purchasers' incomes
 - An increase in the price of hops, an input into beer
 - A new law making alcohol consumption illegal
 - Evidence that drinking beer leads to obesity
 - A decrease in the price of hops, an input into beer
46. Which of the following can cause a free market to produce more than the socially efficient amount of a good or service?
- social benefits
 - negative externalities
 - private benefits
 - positive externalities
 - free rider problems

Quantity of Pollution Reduction (tons/day)	Marginal Cost of Pollution Reduction (\$)	
	Mess it up Manufacturing	Fancy Fabricators
1	0	100
2	25	150
3	50	200
4	75	250

47. The table above describes a local manufacturing industry made up of two firms. The manufacturing process used by the firms generates emissions of pollution into the local environment. The numbers in the table show the marginal cost of reducing each ton of pollution for each of the firms. The **total cost** of reducing pollution by 3 tons per day for Fancy Fabricators is ___.

- \$50
- \$200
- \$450
- \$700



48. Suppose that the market for marijuana is shown in the graph above, where MC(private) represents the private supply curve and MC(social) represents the social supply curve that reflects the full social marginal costs of marijuana. MB(social) is the demand curve and represents the private and social marginal benefits of marijuana. The gap between MC(social) and MC(private) represents

- The difference between the private and social benefits of marijuana production and consumption
- The negative externalities associated with marijuana production and consumption
- The difference between the market price of marijuana and the actual private cost involved in producing marijuana
- Producer surplus
- Consumer surplus

Quantity Demanded (dozens/week)	Price (\$/dozen)	Quantity Supplied (dozens/week)
140	6	0
120	7	15
100	8	30
80	9	45
60	10	60
40	11	75
20	12	90
0	13	105

49. The table above shows the demand and supply for huckleberry bagels at the BagelWorks bagel shop in Bozeman, Montana. Suppose that BagelJerks, a Livingston bakery, begins exporting its bagels from Livingston to Bozeman. As a result, the supply of bagels in Bozeman changes by 70 dozen per week at each price. At the new equilibrium, what is the quantity of bagels supplied by BagelWorks?

- Q = 100 dozen per week
- Q = 60 dozen per week
- Q = 90 dozen per week
- Q = 20 dozen per week
- Q = 30 dozen per week

Elves/hour	Total Product (toys/hour)
0	0
1	50
2	80
3	100
4	110
5	115
6	118

50. Santa Claus hires elves to produce toys according to the production function in the table above. Santa prices his toys at \$10 each and elf wages are \$75 per hour. Elf wages represent Santa's only cost of production. Based on this information, if Santa hires 2 elves per hour, what will his profits be?

- \$800 per hour
- \$150 per hour
- \$650 per hour
- \$115 per hour

When you are ready to turn in your exam, please bring your answer sheet, this test, and your photo id to the proctor.