Economics 101	Name __ANNOTATED KEY__
Fall 2014	TA Name _____
October 7, 2014	Discussion Section Number _____
First Midterm Afternoon Lecture	

Version 1
READ THESE INSTRUCTIONS CAREFULLY.
DO NOT BEGIN WORKING UNTIL THE PROCTOR TELLS YOU TO DO SO

You have 75 minutes to complete this exam. The exam consists of 14 binary response questions worth 2 points each and 20 multiple choice questions worth 3.5 points each for a total of 98 points. You will receive two points if you accurately and completely provide your name, ID number, discussion section number, version number, and TA name on the scantron sheet AND this exam booklet. Thus, the total number of points on the exam is 100. Answer all questions on the scantron sheet with a #2 pencil. There are 20 printed pages in this exam, including this cover sheet.

WARNING: NO COMMUNICATION OR CALCULATING DEVICES, OR FORMULA SHEETS ARE ALLOWED. NO CONSULTATION AND CONVERSATION WITH OTHERS ARE ALLOWED WHILE YOU ARE TAKING EXAM OR IN THE EXAM ROOM. PLAGIARISM IS A SERIOUS ACADEMIC MISCONDUCT AND PUNISHABLE TO THE FULLEST EXTENT.

PICK ONLY ONE BEST ANSWER FOR EACH QUESTION.

How to fill in the scantron sheet and other information:
1. Print your last name, first name, and middle initial in the spaces marked "Last Name," "First Name," and "MI." Fill in the corresponding bubbles below.
2. Print your student ID number in the space marked "Identification Number." Fill in the bubbles.
3. Write the number of the discussion section you've been attending under "Special Codes" spaces ABC, and fill in the bubbles. You can find the discussion numbers below on this page.
4. Write the version number of your exam booklet under "Special Codes" space D, and fill in the bubble. The version number is on the top of this page.
- **If you believe there is an error on the exam or you do not understand something, make a note on your exam booklet and the issue will be addressed AFTER the examination is complete. No questions regarding the exam can be addressed while the exam is being administered.**
- **When you are finished, please get up quietly and bring your scantron sheet and this exam booklet to the place indicated by the proctors.**

Discussion Sections (Sorted by Time):

| Section Number	Time	Room	TA
DIS 335	R 4:35-5:25PM	6310 Sewell Social Sciences	Moshi
DIS 347	R 4:35-5:25PM	6232 Sewell Social Sciences	Tom
DIS 346	F 8:50-9:40AM	1407 Sterling Hall	Tom
DIS 332	F 8:50-9:40AM	120 Ingraham Hall	Ye
DIS 330	F 8:50-9:40AM	1327 Sterling Hall	Fu
DIS 345	F 9:55-10:45AM	590 Van Hise Hall	Fu
DIS 342	F 9:55-10:45AM	490 Van Hise Hall	Ye
DIS 343	F 11:00-11:50AM	B333 Van Vleck Hall	Fu
DIS 336	F 11:00-11:50AM	B329 Van Vleck Hall	Moshi
DIS 341	F 12:05-12:55PM	224 Ingraham Hall	Ye
DIS 338	F 12:05-12:55PM	1333 Sterling Hall	Fu
DIS 339	F 12:05-12:55PM	1327 Sterling Hall	Gary
DIS 333	F 1:20-2:10PM	138 Witte Hall	Gary
DIS 334	F 1:20-2:10PM	49 Sellery Hall	Moshi
DIS 337	F 2:25-3:15PM	138 Witte Hall	Gary
DIS 340	F 2:25-3:15PM	126 Chadbourne Hall	Moshi
DIS 331	F 3:30-4:20PM	5322 Sewell Social Sciences	Gary

I, _____, agree to neither give nor receive any help on this exam from others. I understand that the use of a calculator or communication device on this exam is academic misconduct. I also understand that providing answers to questions on this exam to other students is academic misconduct as is taking or receiving answers to questions on this exam from other students. Thus, I will cover my answers and not expose my answers to other students. It is important to me to be a person of integrity and that means ALL ANSWERS on this exam are my answers. Any violation of these guidelines will result in a penalty of <u>at least</u> receiving a zero on this exam.

Signed _____

BINARY CHOICE QUESTIONS (14 QUESTIONS WORTH 2 POINTS EACH)

1. A new technology called fracking makes it easier to get natural gas out of the ground. This natural gas can then be used to heat homes and generate electricity. Given this information and holding everything else constant, in the market for natural gas this will result in

   a. An increase in the supply of natural gas.
   b. An increase in the demand for natural gas.
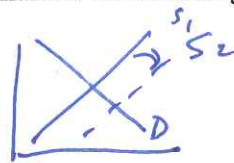
   Definitional

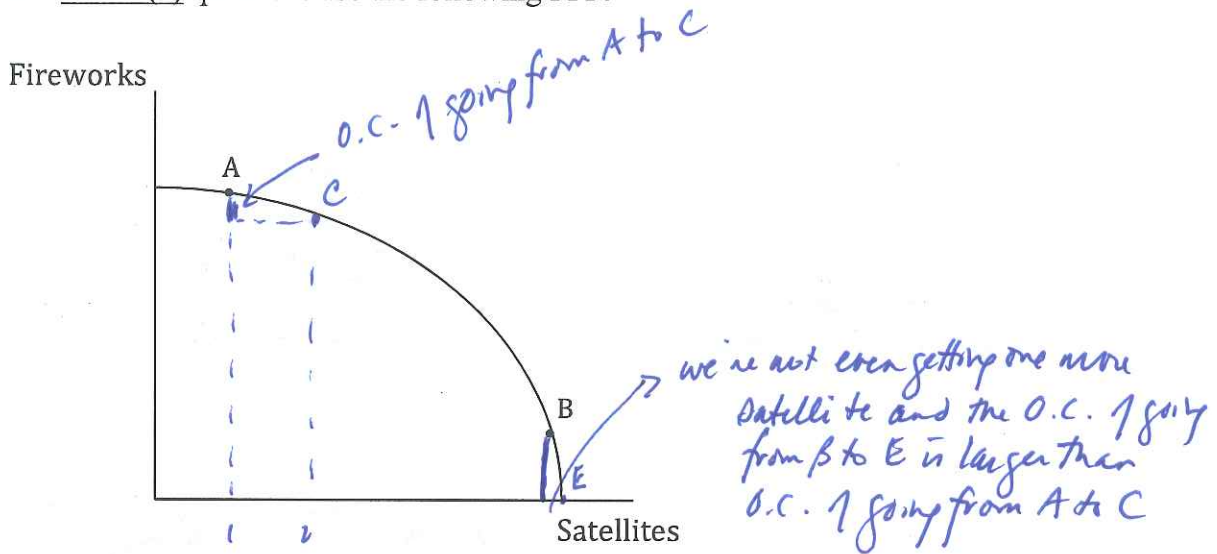   *quantity demanded ⇒ movement along demand & a shift in supply*

2. Suppose that new fracking technology has led to a lower equilibrium price for natural gas. The result of the lower price is

   a. An increase in demand.
   b. An increase in the quantity demanded.

   (see above)

   Definitional

The next **TWO (2)** questions use the following PPF:

Fireworks

O.C. ↑ going from A to C

A

C

we're not even getting one more satellite and the O.C. ↑ going from B to E is larger than O.C. ↑ going from A to C

B

E

Satellites

3. The United States can produce Fireworks or Satellites according to the above PPF. The opportunity cost of producing more Satellites is higher at

   a. Point A.
   b. Point B.
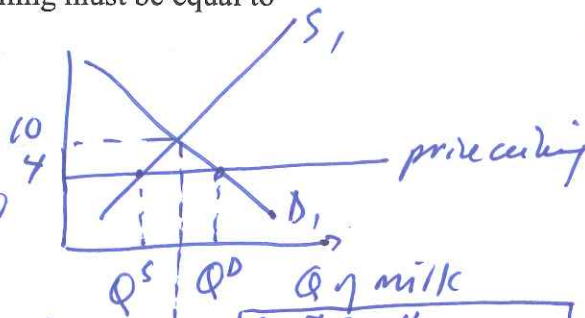
   Law of Increasing O.C.

   ✓

4. Fireworks are consumed for entertainment, while Satellites are capital, or investment goods. Holding everything else equal, which production point will expand the PPF more in future years?

   a. Point A
   b. Point B

   ✓

5. The government imposes a price ceiling on the price of milk. Suppose this price ceiling is effective in the market for milk and results in an excess demand of 9 units of milk. If the demand for milk is given by the equation $P = 30 - 2Q$, and the supply of milk is given by the equation $P = Q$, then the price ceiling must be equal to

   a. $4.
   b. $16.

   ✓

   $Q^D - Q^S = 9 = $ Excess demand
   Shortage

   To be effective, price ceiling must be less than P_e ⟹ price ceiling < 10

   S_1

   price ceiling

   D_1

   Q^S Q^D Q of milk

   Q_e
   10

   Or, if P = 4
   ⟹ $Q^D = 13$
   $Q^S = 4$ / $Q^D - Q^S = 9$

   Find eq. P, eq. Q:
   $30 - 2Q = Q$
   $3Q = 30$
   $Q_e = 10$
   $P_e = 30 - 2Q_e$
   $P_e = 30 - 2(10)$
   $P_e = 10$

   or $P_e = Q_e = 10$

6. Yoshi is taking the first 75-minute midterm exam for Econ 101. The exam consists of 15 binary choice questions and 20 multiple choice questions. Suppose Yoshi knows that if he only answers binary choice questions he can finish 35 binary choice questions in 75 minutes; and Yoshi also knows that if he only answers multiple choice questions he can finish 25 multiple choice questions in 75 minutes. Assume that Yoshi's PPF for these two goods is linear. What is Yoshi's opportunity cost of solving one binary choice question?

   a. 4/3 multiple choice questions.
   b. 5/7 multiple choice questions.

   OC of 1 MC is $\frac{7}{5}$ BC
   OC of 1 BC is $\frac{5}{7}$ MC

   BC Yoshi
   35
   $m = \frac{-35}{25} = \frac{-7}{5}$
   25 — MC
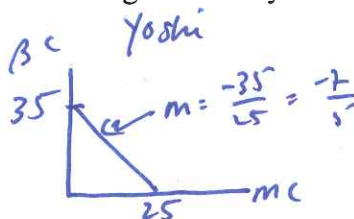
7. Suppose Praxiteles and Antipater each can produce two goods: marble statues and lyric poems. The table below describes their production possibilities if they **only** carve statues or **only** write poems. Assume constant opportunity costs.

	Statues	Poems
Praxiteles	6	3
Antipater	2	6

   Poems Praxiteles (Poems) Antipater
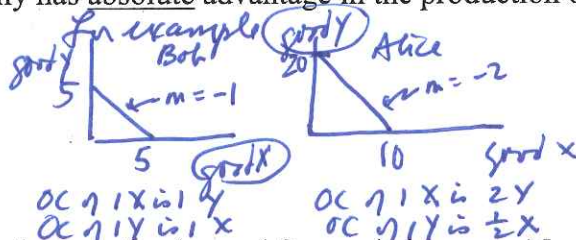   3 $m = -\frac{1}{2}$ 6 $m = -3$
   6 (Statues)   2   Statues
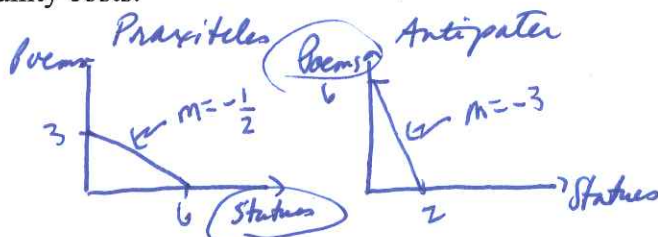
   If Praxiteles and Antipater specialize in their respective comparative advantages, what will be the trading range for the price of one statue?

   OC of 1 S is $\frac{1}{2}$ P   OC of 1 S is 3P

   a. between 1/3 of a poem and 2 poems
   b. between 1/2 of a poem and 3 poems

   1 S ← Antipater
   $\frac{1}{2}$ P   3P
   Praxiteles →
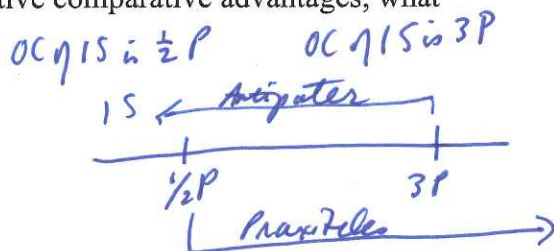
8. True or False? If an individual has <u>comparative</u> advantage in the production of a good, then she necessarily has <u>absolute</u> advantage in the production of that good.
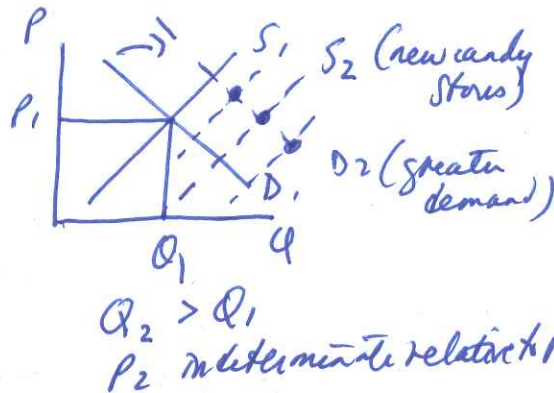
   If you understand this concept, you did not have to do any work here

   a. True
   b. False

   for example good Y Bob 20 Alice
   5   $m = -1$ $m = -2$
   5 (good X)   10   good X
   OC of 1 X is 1 Y   OC of 1 X is 2Y
   OC of 1 Y is 1 X   OC of 1 Y is $\frac{1}{2}$ X

   Bob has comp adv in production of good X, but does not have the absolute advantage in the production of good X

9. Madison has recently seen the demand for candy increase. New candy stores on State Street have also opened, increasing the supply of candy. Given these changes, which of the following statements <u>must</u> be true?

   a. The quantity of candy sold has increased. True
   b. The price of candy has increased. False

   P
   S_1 S_2 (new candy stores)
   P_1
   D_1 D_2 (greater demand)
   Q_1 Q
   $Q_2 > Q_1$
 P_2 indeterminate relative to P_1

10. Water is an absolute necessity for survival. Yet we see that the price of water is lower than the price of diamonds. An economic explanation of this price difference is that

   a. Diamonds are a luxury, so people should pay more for diamonds. *Normative*
   b. The available supply of water is much larger than the available supply of diamonds.

   P water < P diamonds
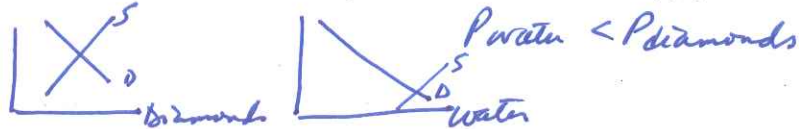
11. Consider a market with a downward sloping demand curve and an upward sloping supply curve, which intersect one another at some point in the first quadrant. Excess demand in this market always implies prices above equilibrium and excess supply in this market always implies prices below equilibrium.

   a. True
   b. False

   prices below equilibrium
   prices above equilibrium
   Excess demand if P < Pe
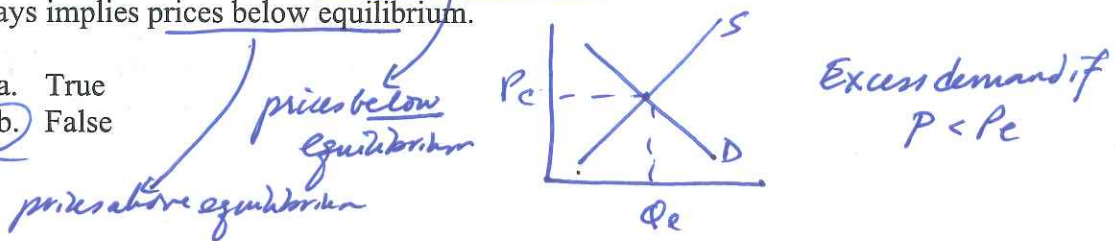
12. Josie loves nachos and apples. She notices that when her income falls her consumption of nachos increases and her consumption of apples decreases. From this information and holding everything else constant, which of the following statements is correct?
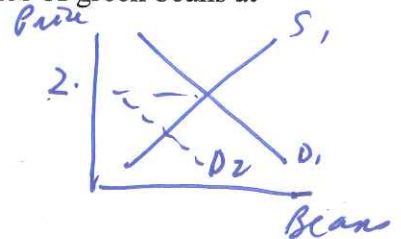
   Definitional

   a. Apples are an inferior good and nachos are a normal good for Josie.
   b. Apples are a normal good and nachos are an inferior good for Josie.

   Income ↓ Q of nachos ↑ ⇒ Nachos inferior
   Income ↓ Q of apples ↓ ⇒ apples normal

13. A farmer comes to the Madison farmers' market to sell green beans. He normally charges $2/pound of green beans. But today it is raining heavily, and there are not nearly as many customers as normal. What can we predict about the equilibrium price of green beans at the farmers' market today?

   a. The equilibrium price today should be less than $2/pound.
   b. The equilibrium price today should be more than $2/pound.

   Price
   2.
   S₁
   D₂ D₁
   Bean

14. Every month, the Bureau of Labor Statistics reports new updated data on the unemployment rate. We would classify this as

   a. Cross-sectional data.
   b. Time-series data.

   Definitional

   Data collected every month ⇒ Time-Series Data
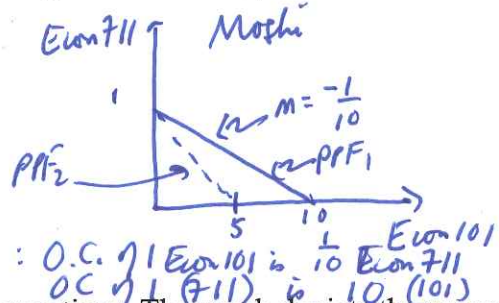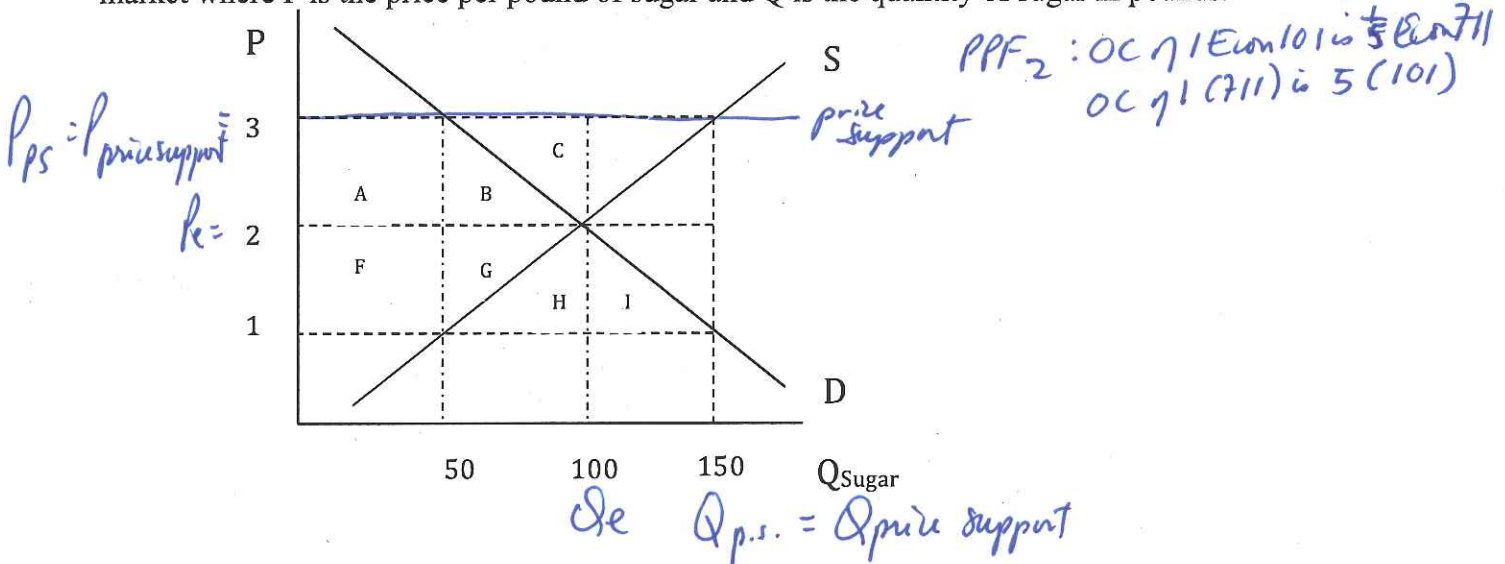
MULTIPLE CHOICE QUESTIONS (20 QUESTIONS WORTH 3.5 POINTS EACH)

15. Suppose initially Moshi's opportunity cost of grading one Econ101 homework equals solving 1/10th of an Econ 711 problem. But, then he decides to grade more carefully, so that his opportunity cost of grading one Econ 101 homework now equals solving 1/5th of an Econ 711 problem. His opportunity cost of solving one Econ 711 problem

   a. Increases by 1/5 Econ101 homeworks.
   b. Decreases by 1/5 Econ101 homeworks.
   c. Decreases by 5 Econ101 homeworks.
   d. Increases by 5 Econ101 homeworks.

[Handwritten margin notes: graph labeled "Econ711" vertical axis, "Moshi"; line with slope $m = \frac{-1}{10}$; labels PPF_2, PPF_1; axis marks 5, 10, "Econ101"; "PPF₁ : O.C. ↗ 1 Econ101 is $\frac{1}{10}$ Econ 711 / O.C. ↗ 1 (711) is 10 (101)"; "PPF₂ : O.C. ↗ 1 Econ101 is $\frac{1}{5}$ Econ711 / O.C. ↗ 1 (711) is 5 (101)"]

Use the following graph to answer the next **THREE (3)** questions. The graph depicts the sugar market where P is the price per pound of sugar and Q is the quantity of sugar in pounds.

[Handwritten: $P_{PS} = P_{price support}$, $P_e = 2$; "Q_e : Q_{p.s.} = Q_{price support}"; "price support" label; S and D curves; areas A, B, C, F, G, H, I labeled]

16. Suppose that initially the sugar market is in equilibrium and the government decides to impose a minimum price (a price support) of P = $3 per pound of sugar in the sugar market. The **change** in consumer surplus induced by this policy can be measured as the

   a. Decrease of (Area A + Area B + Area F + Area G)
   b. Increase of (Area C + Area H)
   c. Decrease of (Area A + Area B)
   d. Decrease of (Area B + Area C)

17. To implement this minimum price, the government itself must

   a. Sell sugar to consumers. ✗
   b. Buy sugar from producers. ✓
   c. Begin growing its own sugar cane in order to produce more sugar. ✗
   d. Ban the sale of candy. ✗

18. When the government implements the price support, producers' revenues

   a. Increase by $50 relative to their initial revenue before the implementation of the price support.
   b. Increase by $150 relative to their initial revenue before the implementation of the price support.
   c. Increase by $250 relative to their initial revenue before the implementation of the price support.
   d. Increase by $450 relative to their initial revenue before the implementation of the price support.

producer revenue w/out price support = $P_e \cdot Q_e = (\$2/unit)(100 units) = \$200$
producer revenue w/ price support = $P_{p.s.} \cdot Q_{p.s.}^s = (\$3/unit)(150 units) = \$450$

19. Clay Mathews, a star football player, is known for his long hair. All his fans in Wisconsin decide they want to look like Clay, and stop getting haircuts. Given this information and holding everything else constant, in the market for haircuts in Wisconsin, this causes

   a. A decrease in the supply of haircuts, and a decrease in the quantity of haircuts demanded. ✗
   b. An increase in the quantity of haircuts supplied. ✗
   c. An increase in the price of haircuts. ✗
   d. A decrease in the demand for haircuts, and a decrease in the quantity of haircuts supplied. ✓
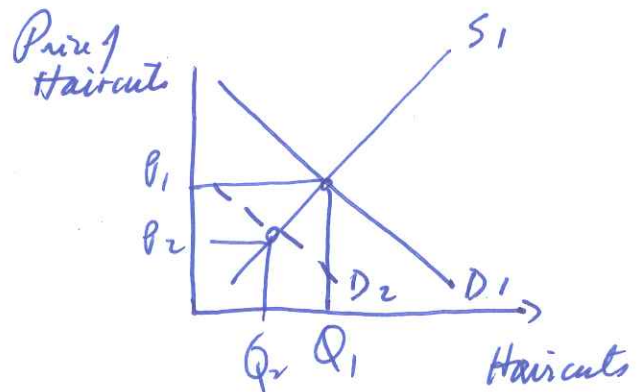
Use the following information to answer the next **FOUR (4)** questions:

Consider the market for the long-awaited iPhone 6 Plus, which was released in September. Suppose the supply curve for this phone is given by the following equation where Q^S is the quantity of phones supplied and P is the price per phone:

$Q^S = 2P$ $\Rightarrow$ $P = \frac{1}{2}Q^S$

You are also told that the market demand for the iPhone 6 Plus is given by the following set of equations where Q^D is the quantity of iPhone 6 Pluses demanded and P is the price per iPhone 6 Plus:

$Q^D = 2000 - 2P$ for $0 \leq P \leq 1000$, $\Rightarrow$ $2P = 2000 - Q^D$
$Q^D = 0$ for $P \geq 1000$ $\quad\quad\quad\quad P = 1000 - \frac{1}{2}Q^D$ 1000
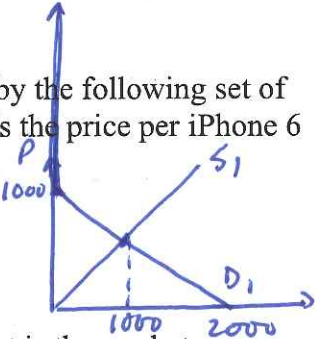
20. Given this information and holding everything else constant, what is the market equilibrium price and quantity for the iPhone 6 Plus?

a. $300 per iPhone 6 Plus and 600 iPhone 6 Pluses
b. $500 per iPhone 6 Plus and 1000 iPhone 6 Pluses
c. $500 per iPhone 6 Plus and 500 iPhone 6 Pluses
d. $300 per iPhone 6 Plus and 1400 iPhone 6 Pluses

$\frac{1}{2}Q = 1000 - \frac{1}{2}Q$
$Q = 1000$
$P = \frac{1}{2}Q = \frac{1}{2}(1000) = 500$
or
$P = 1000 - \frac{1}{2}Q = 1000 - \frac{1}{2}(1000) = 500$

Suppose that a new group of consumers, a group of older people, now demand the iPhone 6 Plus as well because of its bigger screen. The demand for this new group of consumers is given by the following information where $Q^D{}_O$ is the quantity of iPhone 6 Pluses demanded by these older consumers and P is the price per iPhone 6 Plus:
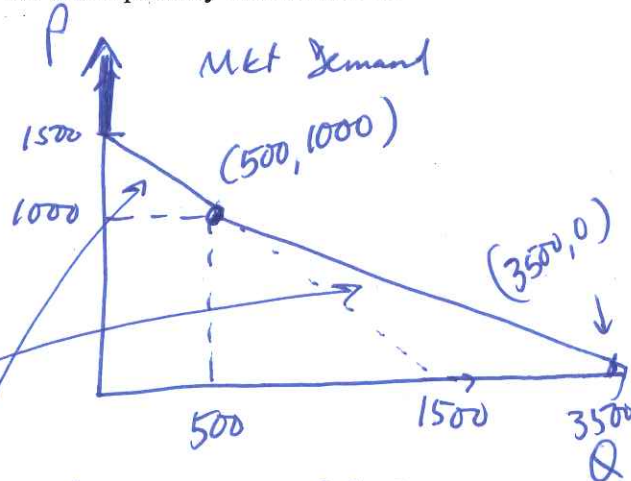
$Q^D{}_O = 1500 - P$ for $0 \leq P \leq 1500$,
$Q^D{}_O = 0$ for $P \geq 1500$

$\Rightarrow P = 1500 - Q_{older}$

Not drawn to scale
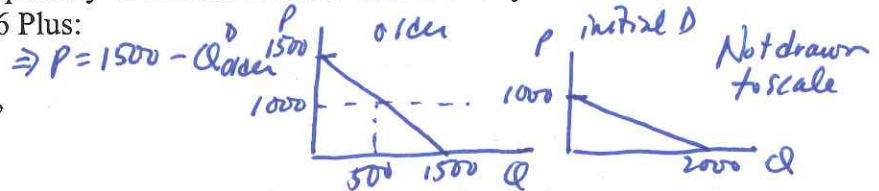
21. Given the above information and holding everything else constant, what is the aggregated market demand (this includes all the potential consumers that have been described) for the iPhone 6 Plus? In the answers below $Q^D{}_T$ refers to the total quantity demanded of iPhone 6 Pluses.
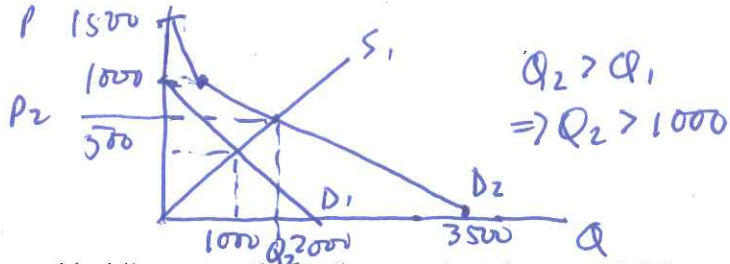
a. $Q^D{}_T = 2000 - 2P$ for $P \geq 0$ ✗
b. $Q^D{}_T = 3500 - 3P$ for $0 \leq P \leq 1000$, ✓
   $Q^D{}_T = 5000/3 - (2/3)P$ for $1000 \leq P \leq 1500$, ✗
   $Q^D{}_T = 0$ for $P \geq 1500$ ✓
c. $Q^D{}_T = 3500 - 3P$ for $0 \leq P \leq 1000$, ✓
   $Q^D{}_T = 1500 - P$ for $1000 \leq P \leq 1500$, ✓
   $Q^D{}_T = 0$ for $P \geq 1500$ ✓
d. $Q^D{}_T = 2000 - 2P$ for $0 \leq P \leq 1000$, ✗
   $Q^D{}_T = 1500 - P$ for $1000 \leq P \leq 1500$, ✓
   $Q^D{}_T = 0$ for $P \geq 1500$ ✓

Mkt Demand
(500, 1000)
(3500, 0)

$y = mx + b$
$P = (-\frac{1}{3})Q + b$
$(Q, P) = (3500, 0)$
$0 = -\frac{3500}{3} + b$
$3500/3 = b$

$M = -\frac{1000}{3000} = -\frac{1}{3}$
$P = \frac{3500}{3} + (-\frac{1}{3})Q$ or equation for lower segment

$Q^D{}_T = 1500 - P$ for $1000 \leq P \leq 1500$
$\frac{1}{3}Q = \frac{3500 - P}{3}$
$Q^D{}_T = 3500 - 3P$ for $0 \leq P \leq 1000$

P 1500

1000

P_2 — 500

S_1

$Q_2 > Q_1$
$\Rightarrow Q_2 > 1000$

D_1 D_2

1000 Q_2 2000   3500   Q

22. Given the above information and holding everything else constant, how would the market equilibrium quantity for the iPhone 6 Plus change after older people join the market?

    a. The market equilibrium quantity would increase. ✓
    b. The market equilibrium quantity would decrease. ✗
    c. There would be no change in the equilibrium quantity due to these changes. ✗
    d. There is not enough information provided to answer this question with certainty. ✗

23. What is the market equilibrium price after older people join the market for the iPhone 6 Plus?

    a. $500 ✗
    b. $450 ✗
    c. $300 ✗
    d. $700

Initial $P_e = 500$
$P_2 > 500$

only answer (d) is
> than $500
$\Rightarrow$ no need to solve for
the equilibrium

But $Q_T^D = 3500 - 3P$
and $Q^S = 2P$

$3500 - 3P = 2P$
$3500 = 5P$
$700 = P$ ✓

24. When Moshi moved to Madison, Gary helped him by allowing Moshi to stay in his apartment for 2 days. Moshi thought prior to moving to Madison that he would eat lunch (a normal good) every day at the Memorial Union. However when Moshi got here he realized that Gary's house was a long way from campus and that it would cost him $2 per bus (Moshi got here before the day bus passes were available to students) for each trip to the University and back to Gary's house. Given this unexpected transportation expense, and holding everything else constant, what impact would you predict this had on Moshi's demand curve for lunch at Memorial Union? Moshi's demand curve

    a. Should shift to the left.
    b. Should shift to the right. ✗
    c. Should not be affected at all by this situation. ✗
    d. May shift to the right or to the left. ✗

S_1

D_2 D_1
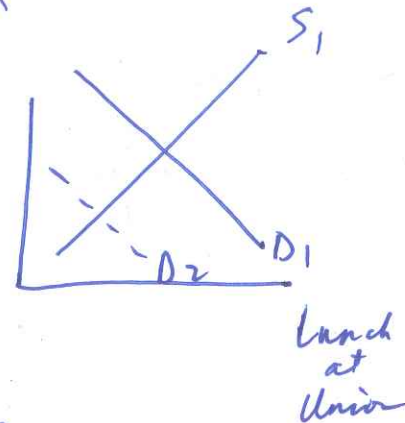
lunch
at
Union

Moshi consumes bus tickets
and lunches together

$\Leftarrow$ Price of complementary food
(the bus ticket) ↑ $\Rightarrow D_1$ to D_2

Use the following information to answer the next **TWO (2)** questions:

Suppose India and Japan produce only two goods, movies and comic books. Both countries have the same amount of resources. The table below shows how many movies and comic books each country can produce if they use all their resources on a single good. Assume that both countries have linear production possibility frontiers. The countries can trade with each other.

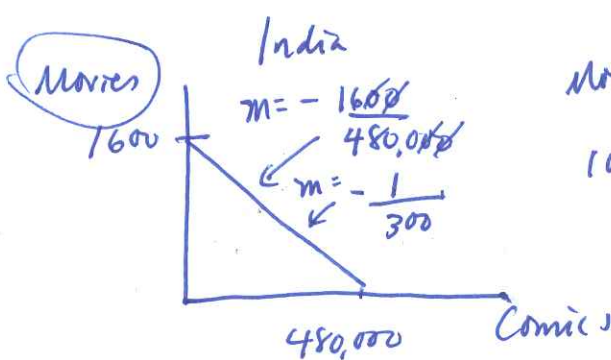|	Movies (max)	Comic books (max)
India	1600	480,000
Japan	1000	400,000

25. Which of the following statements is true?

EASY! ✓

a. India has the absolute advantage in the production of both movies and comic books. T
b. India has the absolute advantage in the production of movies. Japan has the absolute advantage in the production of comic books. F
c. Japan has the absolute advantage in the production of movies. India has the absolute advantage in the production of comic books. T
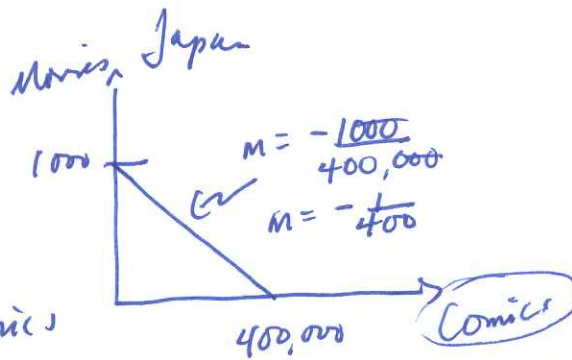d. Japan has the absolute advantage in the production of both movies and comic books. F

26. Suppose India and Japan trade with each other and each country specializes in producing one good. Which country will specialize in the production of each good?

✓

a. Both India and Japan will specialize in producing comic books. X
b. India will specialize in the production of movies. Japan will specialize in the production of comic books. ✓
c. Japan will specialize in the production of movies. India will specialize in the production of comic books. X
d. There are no gains to either Japan or India from specialization. X

*(handwritten work)*

India
Movies
1600
$m = -\frac{1600}{480,000}$
$m = -\frac{1}{300}$
480,000 Comics

Movies, Japan
1000
$m = -\frac{1000}{400,000}$
$m = -\frac{1}{400}$
400,000 Comics

OC of 1 Comic is $\frac{1}{300}$ Movie
OC of 1 M is 300 Comics

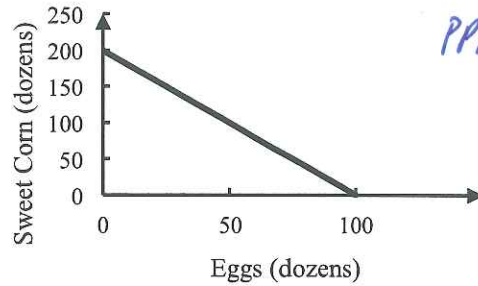OC of 1 Comic is 400 Movie
OC of 1 M is 400 Comics

27. Consider Paul who owns the Pecan Valley farm in Hollandale, Wisconsin. He plants sweet corn and raises chickens for eggs. Carefully examine the Production Possibility Frontiers (PPFs) shown below. Which of these PPF are equivalent to one another?
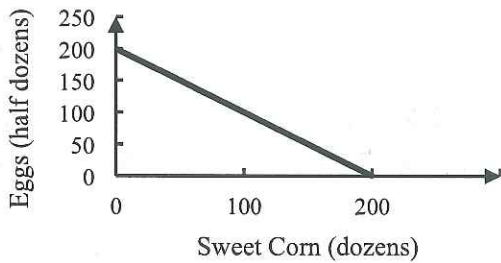
PPF #1 for Sweet Corn and Eggs
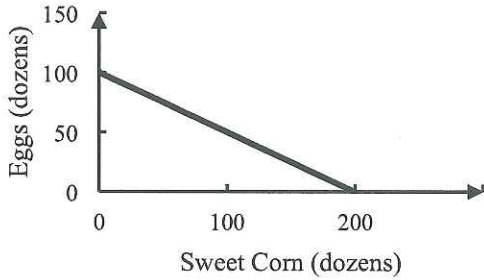
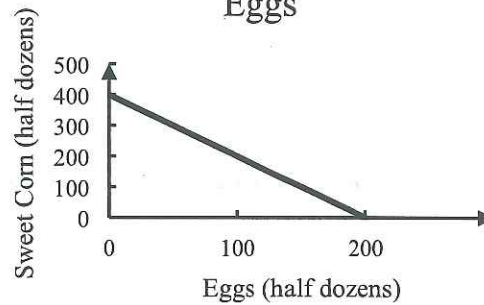## PPF #2 for Sweet Corn and Eggs

$PPF_1 = PPF_2 = PPF_3 = PPF_4$

PPF #3 for Sweet Corn and Eggs

PPF #4 for Sweet Corn and Eggs

a. PPF #1 and #3
b. PPF #2 and #4
c. PPF #1, #2, and #3
d. PPF #1, #2, #3, and #4

Use the following information for the next **THREE (3)** questions:

Suppose Wilhelm and Ludwig each can produce two goods: fairy tales and etchings. Assume that both Wilhelm and Ludwig have linear production possibility frontiers and that they each have the same resources. The table below describes two possible production points for each of these individuals.

Possible Production Points for Wilhelm (Etchings, Fairy Tales)	Possible Production Points for Ludwig (Etchings, Fairy Tales)
(2.5, 5)	(1, ¾)
(3, 4)	(3, ¼)

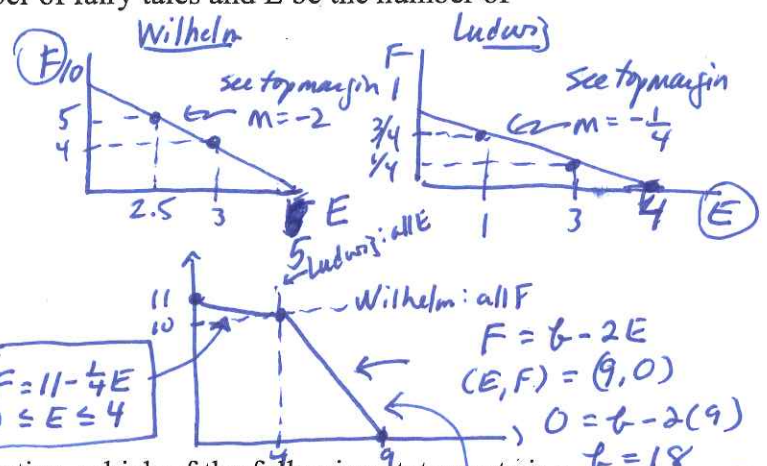28. Given the above information, which of the following statements is true?

   a. Wilhelm has the comparative advantage in the production of fairy tales and etchings.
   b. **Wilhelm has the comparative advantage in the production of fairy tales; Ludwig has the comparative advantage in the production of etchings.**
   c. Wilhelm has the absolute advantage in the production of fairy tales; Ludwig has the absolute advantage in the production of etchings.
   d. Wilhelm has the comparative advantage in the production of etchings; Ludwig has the comparative advantage in the production of fairy tales.

Hint: On #29, many of you may be able to do this w/out actually working too much math.

OC of 1E is 2F
OC of 1F is ½E

OC of 1E is 4F
OC of 1F is 4E

29. Which equation (or set of equations) expresses the joint production possibility frontier for Ludwig and Wilhelm? (Let F be the number of fairy tales and E be the number of etchings.)

Can rule this out — no kink points

Can rule this out ⇒ only 1 kink point

   a. F = 11 - (9/4)E ✗
   b. F = 11 - (1/4)E for 0 ≤ E ≤ 4, ✓
      F = 46 - 9E for 4 ≤ E ≤ 5, ✗
      F = (9/4) - (1/4)E for 5 ≤ E ≤ 9 ✗
   c. **F = 11 - (1/4)E for 0 ≤ E ≤ 4 ✓**
      F = 18 - 2E for 4 ≤ E ≤ 9 ✓
   d. F = 11 - 2E for 0 ≤ E ≤ 5 ✗
      F = (9/4) - (1/4)E for 5 ≤ E ≤ 9

left w/ 2 possible answers — 50% probability of getting it right

$F = 11 - \frac{1}{4}E$ for $0 \le E \le 4$

Wilhelm

see top margin
m = -2

2.5   3

Ludwig

see top margin
m = -¼

1   3   4   E

Ludwig: all E

Wilhelm: all F
F = b - 2E
(E, F) = (9, 0)
0 = b - 2(9)
b = 18

F = 18 - 2E for 4 ≤ E ≤ 9
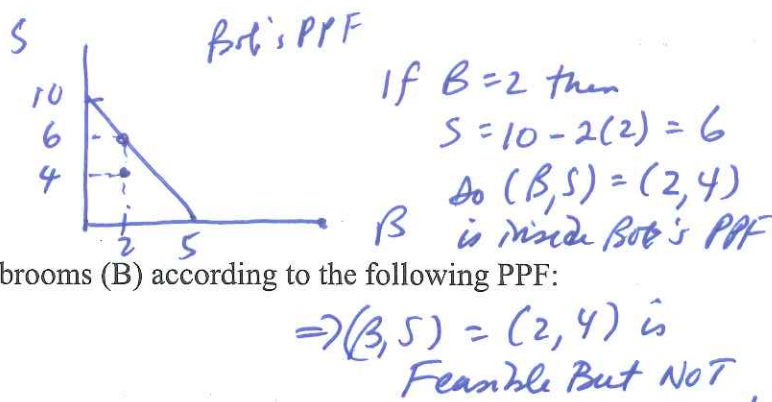
30. Given your analysis and the above information, which of the following statements is a normative statement?

And, actually (d) is pretty easy to identify as a wrong answer.

   a. **Wilhelm should only write fairy tales and Ludwig should only cut etchings.**
   b. Ludwig has the absolute advantage in the production of etchings. *Positive, but False*
   c. Ludwig can produce etchings more cheaply than Wilhelm can. *Positive and True*
   d. Wilhelm has the comparative advantage in the production of etchings. *Positive, but False*

#30: Definitional ⇒ Don't need # 28 or #29 to get this one!

(handwritten, top of page)

S

Bob's PPF

10

6

4

2   5

If $B=2$ then
$S = 10 - 2(2) = 6$
$\Delta o (B,S) = (2,4)$
B is inside Bob's PPF

31. Suppose Bob produces sandals (S) and brooms (B) according to the following PPF:

$S = 10 - 2B$

$\Rightarrow (B,S) = (2,4)$ is
Feasible But NOT
Efficient

Is the production of 4 sandals and 2 brooms feasible for Bob, and if so, does it make efficient use of Bob's resources? This production point is

   a. Feasible, but not efficient for Bob. ✓
   b. Feasible and efficient for Bob. ✗
   c. Not feasible and not efficient for Bob. ✗
   d. Not feasible, but efficient for Bob. ✗

Use the following information for the next **THREE (3)** questions:

The market for wheat can be described by the following demand and supply curves, where P is the price per bushel of wheat and Q is the quantity of bushels of wheat.
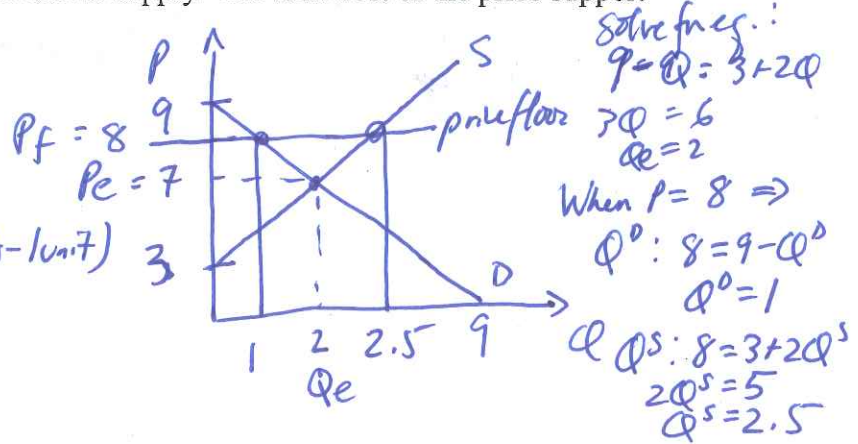
   Market Demand: $P = 9 - Q_D$.
   Market Supply: $P = 3 + 2Q_S$.

32. Suppose the government sets a price floor in the market for wheat: i.e., the government implements a policy that says the price of wheat cannot be lower than $8 per bushel. Given this price support and holding everything else constant, find the quantities of wheat that will be demanded and supplied at this new price of $8 per bushel.

   a. Quantity demanded = 2 bushels of wheat, Quantity supplied = 4 bushels of wheat ✗
   b. Quantity demanded = 1 bushels of wheat, Quantity supplied = 3 bushels of wheat ✗
   c. Quantity demanded = 1 bushels of wheat, Quantity supplied = 2.5 bushels of wheat ✓
   d. Quantity demanded = 3 bushels of wheat, Quantity supplied = 1 bushels of wheat ✗

33. As a result of the imposition of the price floor described in the previous question, the government decides to purchase the excess supply. Calculate the total cost of the price support program to the government. Assume that there are no storage costs associated with the government purchasing the excess supply. The total cost of the price support program to the government is

   a. $8
   b. $10
   c. $11
   d. $12

(handwritten bottom left)
Cost to govt = (\$8/unit)(2.5 units - 1 unit)
Cost to govt = 8(1.5)
Cost to govt = \$12

(handwritten graph)
P
$P_f = 8$
$P_e = 7$
3
S
price floor
D
1   2   2.5   9
Q_e

(handwritten right)
Solve for eq.:
$9 - Q = 3 + 2Q$
$3Q = 6$
$Q_e = 2$

When $P = 8 \Rightarrow$
$Q^D: 8 = 9 - Q^D$
$Q^D = 1$
$Q^S: 8 = 3 + 2Q^S$
$2Q^S = 5$
$Q^S = 2.5$

34. Suppose the government wants suppliers of wheat to earn $8 for each bushel of wheat sold. However the government decides to offer a subsidy for each bushel sold rather than implementing a price support program. Given the above information and holding everything else constant, how much subsidy does the government have to offer <u>for each bushel</u> of wheat in order for wheat suppliers to earn $8 per bushel of wheat sold?

    a. $1.00 per bushel of wheat
    b. $1.50 per bushel of wheat
    c. $2.00 per bushel of wheat
    d. $2.50 per bushel of wheat

price guarantee price = 8

price consumers pay = 6.5

price guarantee
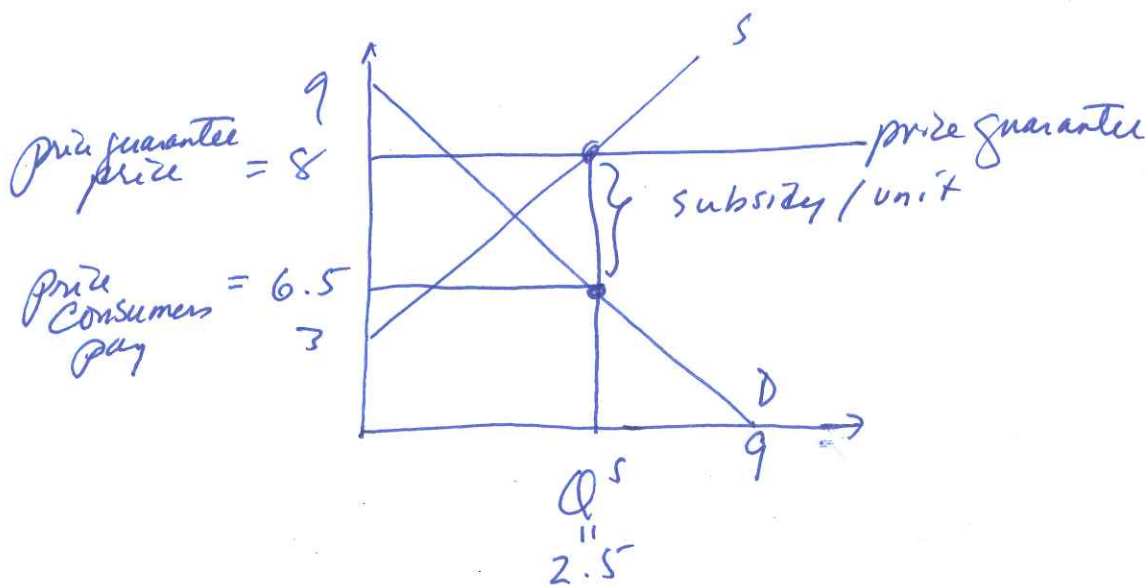
subsidy / unit

if $Q = 2.5$ then what is price demanders will pay?

D: $P = 9 - Q^D$

$P = 9 - 2.5$

$P = 6.5$

Subsidy / unit = Price guaranteed Price − Price Consumers Pay

Subsidy / unit = $8 / unit − $6.50 / unit = $1.50 / unit

(This page is intentionally left blank as an extra work sheet.)
DO NOT DETACH THIS SHEET FROM THIS EXAM BOOKLET!