Economics 101
Fall 2018
First Midterm
Tuesday, October 16, 2018

Name ANNOTATED KEY
Discussion Section _____
TA Name _____
Student ID _____

VERSION 1

The exam consists of three parts: (1) 9 Binary Choice Questions worth 2 points each (18 points total); (2) 20 Multiple Choice Questions worth 4 points each (80 points total); and (3) Administrative Points worth 2 points that are awarded to you for correctly filling out the required information on your scantron and your exam booklet. Please accurately and completely provide your name, student ID number, section number and exam version number on the provided scantron as well as on the exam booklet. Answer all questions on the scantron sheet with a #2 pencil. You have 75 minutes to complete this exam, including filling in your information and answers.

NO CELL PHONES, CALCULATORS, OR FORMULA SHEETS ARE ALLOWED FOR THIS EXAM.

PICK THE BEST ANSWER FOR EACH QUESTION. DURING THE EXAM NO QUESTIONS MAY BE ANSWERED: IF YOU THINK THERE IS AN ERROR ON THE EXAM, SELECT THE BEST ANSWER FOR THAT QUESTION, MAKE A NOTE OF YOUR ISSUE ON THE EXAM AND LET THE PROCTOR KNOW OF THE ISSUE WHEN YOU SUBMIT YOUR EXAM AND SCANTRON FOR COLLECTION.

How to fill in the scantron sheet and other information:
1. Print your last (family) name and first (given) name, in the spaces marked "Last Name," and "First Name." 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're officially registered for under "Special Codes" spaces ABC, and fill in the bubbles. The section number can be found in the table below.
4. Write the version number of your exam booklet under "Special Codes" space D, and fill in the bubble. The version number is at the top of this page.

Example: If you are registered for section 345 and it says "Version 2" at the top of this page, your "Special Codes" should read 3452.

Erika Frost	Soojeong Jung	Jonathon McClure	Yiyou Zhang	Xinrong Zhu
330 F 8:50-9:40 Van Vleck B113	**332** R 3:30-4:20 Van Vleck B235	**336** F 11:00-11:50 Sterling 2425	**338** F 9:55-10:45 Van Hise 475	**344** F 8:50-9:40 Van Hise 499
331 F 9:55-10:45 Van Hise 383	**345** R 4:35-5:25 Soc Sci 6314	**341** F 12:05-12:55 Van Hise 367	**335** 11:00-11:50 Sterling 3425	**342** F 9:55-10:45 Van Hise 487
	339 F 12:05-12:55 Van Hise 379	**334** F 1:20-2:10 Ingraham 122	**346** F 1:20-2:10 Soc Sci 6322	**343** F 11:00-11:50 Van Vleck B337
	333 F 1:20-2:10 Ingraham 224		**340** F 2:25-3:15 Ingraham 120	**337** F 2:25-3:15 Sterling 1407

Worksheet
DO NOT REMOVE FROM EXAM BOOKLET!!

I, _____, agree to neither give nor receive any help on this exam from other students. Furthermore, I understand that use of a calculator on this exam is an academic misconduct violation. I also understand that failure to cover my answers is academic misconduct: it is important that I maintain the integrity of my work and that I do not make it available to other students.

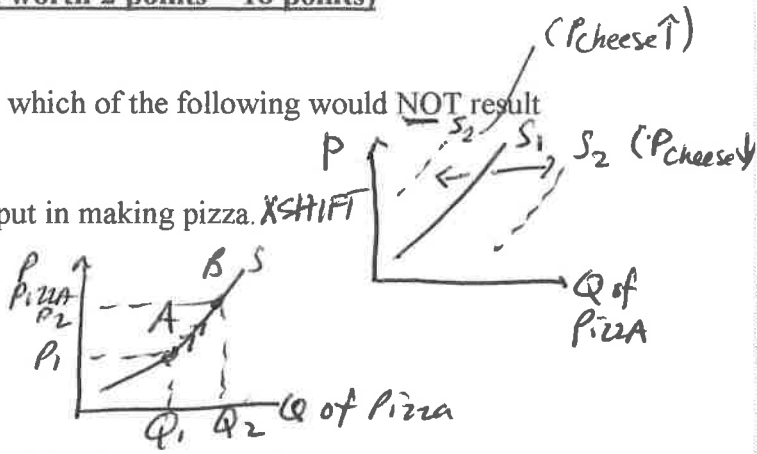
Signed _____

Part I. Binary Choice Questions (9 questions each worth 2 points = 18 points)

EASY

1. In the perfectly competitive market for pizza, which of the following would NOT result in a shift in supply?

   a. A change in the price of cheese, an input in making pizza. ✗SHIFT
   (b.) A change in the price of pizza.



EASY; DEFINITION

2. According to the paradox of thrift, it is not good for the economy if people _____ more during a recession. Fill in the blank:

   a. spend
   (b.) save

COVERED EARLY IN CLASS LECTURE

EASY; DEFINITIONAL

3. Eric is an economist working for the US government. In recent data, he notices that there has been an increase in the average wage and a decrease in the amount of leisure time for the average American. This trend illustrates what important economic concept?

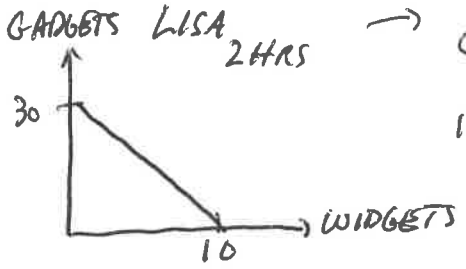
   (a.) Opportunity cost : TRADE-OFF B/W WORKING & ?INCOME VS TAKING LEISURE
   b. Externality : HIDDEN COST OR HIDDEN BENEFIT

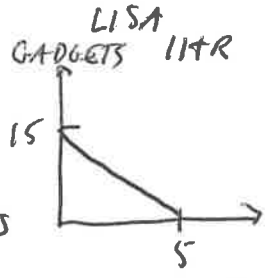
   ↳ COVERED EARLY IN CLASS LECTURE

SOME WORK & THOUGHT

4. Suppose Lisa and Bob have linear production possibility frontiers with respect to producing gadgets and widgets. Lisa can produce 30 gadgets or 10 widgets every 2 hours. Working together, Lisa and Bob can produce 40 gadgets or 30 widgets every hour. Given this information and holding everything else constant, what is Bob's opportunity cost of producing 1 gadget?

a. 2 widgets
(b.) 1 widget





IN ONE HOUR:
LISA 15 G
BOB 25 G
40G

OR
LISA 5W
BOB 25W
30W

EASY

5. Which of the following statements about price floors is true? MIN PRICE SET BY GOVT

a. There is an excess supply in the market when a price floor is imposed.
(b.) A price floor in a market must be higher than the equilibrium price in that market in order to be effective. TRUE

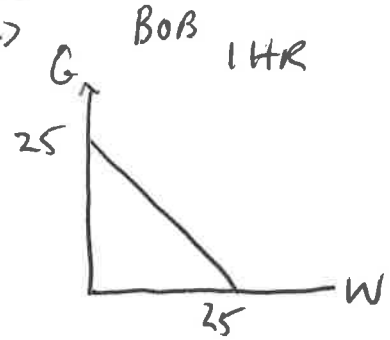
TO BE EFFECTIVE, $P_{FLOOR} > P_e$

(a) IS NOT ALWAYS TRUE ⇒ IF $P_F < P_e$ THERE IS NO EXCESS SUPPLY

NOT HARD

6. In the fall semester, Sarah started running to strengthen her back muscles. As she ran whenever she had the chance, her backpain was gone. However, during the semester she developed an overuse injury to her knee joint from all of that running and this led Sarah to stop running by the end of the semester. In this scenario, which was bigger for Sarah by the end of the fall semester – the marginal cost or the marginal benefit from running?

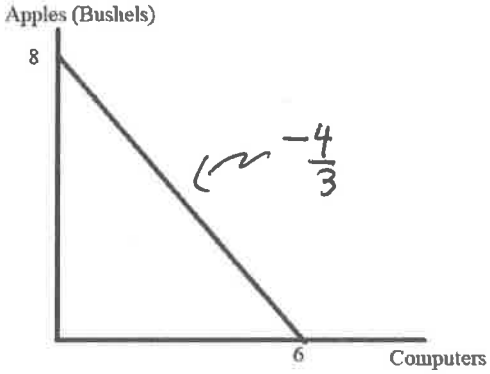
(a.) Marginal cost
b. Marginal benefit



OC of 1W is 1G
OC of 1G is 1W

EASY

7. Based on the graph below, the opportunity cost of producing one more computer is:



$m = -\frac{4}{3}$

OC of 1C is $\frac{4}{3}$ A

a. 3/4 bushels of apples
(b.) 4/3 bushels of apples

NOT TOO BAD

8. Katy is an ECON 101 student that cares about the environment, and because of this she does not use single-use plastic straws. She surveys all 400 ECON 101 students in her class and finds that 90% say they care about the environment. She thus concludes that at most 40 students in the class use single-use plastic straws. Is Katy justified in concluding this?

a. Yes
(b.) No

400
·9
360 CARE ABOUT ENVIRONMENT
↳ LIKELY THAT THEY WOULD BE CAREFUL ABOUT STRAW CHOICE ⇒ BUT CANNOT KNOW PRECISELY HOW MANY MAKE THIS CHOICE

EASY

9. Alice purchases a new tablet and begins bringing it to lecture. Despite its note-taking features, she finds that she is unable to focus on the class as a result. Additionally, Bob is distracted by the very bright screen, which slows his own note-taking. Which of the following is an externality due to Alice's decision to bring her tablet to class?

a. Alice's decrease in focus.
(b) Bob's decrease in focus.

HIDDEN COST OR HIDDEN BENEFIT ⇒ COVERED EARLY IN SEMESTER ⇒ USING SAME EXAMPLE

Work Space:

EXAM CONTINUES ON NEXT PAGE!

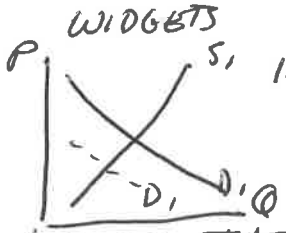
Part II. Multiple Choice Questions (20 questions each worth 4 points = 80 points)

HARD!

10. Tim frequently purchases two goods, widgets and gizmos. Tim considers these two goods to be complements to one another. He also knows that widgets are an inferior good. Suppose Tim's income increases. How many of the following statements are true given this information and holding everything else constant?

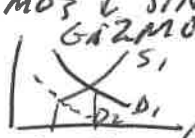
- The demand curve for widgets will shift to the left. TRUE
- The demand curve for gizmos will definitely shift to the right. FALSE
- The new equilibrium price and equilibrium quantity in the market for gizmos cannot be determined from the given information. TRUE

a. All three statements are true statements.
(b.) Two of these statements are true.
c. One of these statements is true.
d. None of these statements is true.



INC ↓, DWIDGETS SHIFTS LEFT ⇒ PWIDGETS↓

AS QWIDGETS ↓ ⇒ QGIZMOS ↓ SINCE THE 2 GOODS ARE COMPLEMENTS



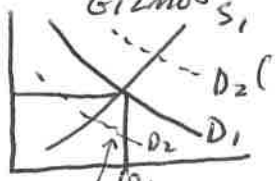
QGIZMOS↓

* BUT DGIZMOS MAY ALSO BE SHIFTING RIGHT W/ ↑INCOME

SOME WORK: PREDICTABLE

11. Consider a market with the following equations:

Demand: Q = 24 – 2P
Supply: Q = 4P



(GIZMOS NORMAL W/ SHIFT FROM ↑IN INCOME BIGGER SHIFT)

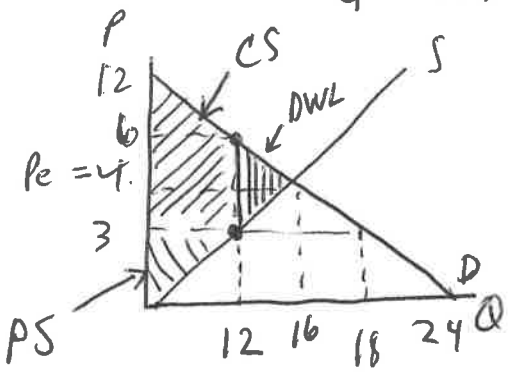
The government imposes an effective price control that fixes the price at P = $3. Find the consumer surplus (CS), producer surplus (PS), and deadweight loss (DWL) following the implementation of this price control.

IF NO PRICE CONTROL:
24 − 2P = 4P
24 = 6P
4 = Pe
Qe = 16

(GIZMOS NORMAL OR INFERIOR W/ SHIFT DUE TO P GADGETS↓ BEING THE "BIGGER" SHIFT)

a. CS = $60, PS = $28, DWL = $8
(b) CS = $72, PS = $18, DWL = $6
c. CS = $96, PS = $26, DWL = $10
d. CS = $108, PS = $18, DWL = $12

IF P = #3 ⇒ $Q^D = 24 - 2(3) = 18$
$Q^S = 4(3) = 12$



$PS = \frac{1}{2}bh = \frac{1}{2}(12\text{ units})(\$3/\text{unit} - \$0/\text{unit}) = \$18$
⇒ ELIMINATES (a) and (c)

$CS + PS + DWL = \frac{1}{2}(16)(12-0) = \$96$
IN (b) ⇒ CS + PS + DWL = 72 + 18 + 6 = 96 ✓
IN (d) ⇒ CS + PS + DWL = 108 + 18 + 12 > 96 ✗

OR, IF Q = 12 ⇒ PCONSUMERS WILLING TO PAY ⇒ $12 = 24 - 2P$, $2P = 12$, $P = 6$

So $CS = \frac{1}{2}(12-6)(12) + 3(12) = 36 + 36 = 72$
$DWL = \frac{1}{2}(6-3)(16-12) = \$6$

Use the following information to answer the next <u>THREE</u> (3) questions.

The market for apples consists of four people. Paul and Robin are consumers. The following equations describe Paul and Robin's demand curves for apples where P is the price per apple, and Q is the number of apples:

Paul's Demand: $5P = 10 - Q$
Robin's Demand: $2P = 6 - Q$

Krugman and Wells produce apples, and the following equations describe Krugman and Wells' supply curves for apples:

Krugman's Supply: $P = (1/9)Q$
Wells' Supply: $P = 2 + Q$

★ LOOKING FOR FALSE

NOT HARD 12. Which of the following statements about market demand is **<u>not</u>** true?

a. The market demand for apples is 2 apples when the price of an apple is \$2. T
b. The x-intercept of the market demand curve is equal to 16 apples. T
c. When $2 \leq P \leq 3$, the slope of the market demand curve is -1/2. T
(d.) When $0 \leq P \leq 2$, the slope of the market demand curve is -1/5. F

IF YOU TRUST YOURSELF THIS ONE IS EASY ⇒ IF YOU DO THE WORK IT IS LONG

13. Which among the following equations is a segment of the market supply curve?

(a.) $P = (1/9)Q$, for $0 \leq P \leq 2$ TRUE
b. $P = (1/9)Q$, for $0 \leq P \leq 3$ FALSE
c. $P = 2 + (10/9)Q$, for $2 \leq P$ FALSE
d. $P = 1 + (1/10)Q$, for $2 \leq P$ FALSE

A LOT OF WORK REQUIRED TO GET THE FINAL ANSWER

14. What is the market equilibrium price? At the equilibrium price, who of the suppliers is supplying apples to the market?

a. P = \$1; Both Krugman and Wells supply apples X
(b.) P = \$1; Only Krugman supplies apples
c. P = \$3; Both Krugman and Wells supply apples X
d. P = \$18/17; Only Krugman supplies apples

Work Space:

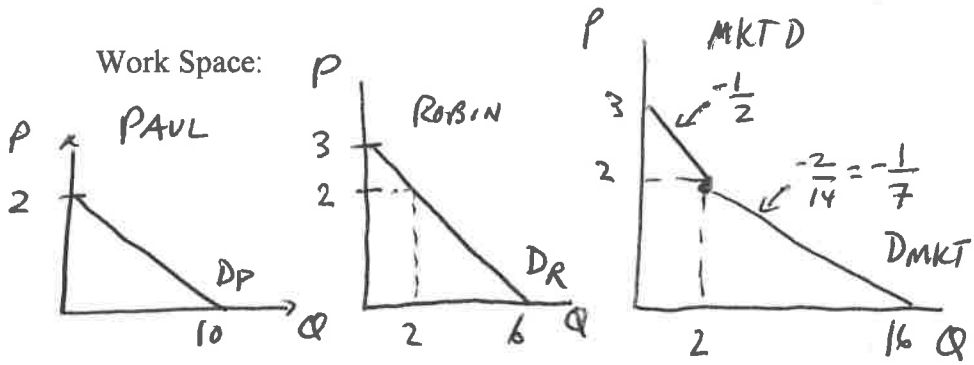
#12.

PAUL: $5P = 10 - Q$

$P = 2 - \frac{1}{5}Q$

ROBIN: $2P = 6 - Q$

$P = 3 - \frac{1}{2}Q$



IF $P = 2 \Rightarrow$

$2(2) = 6 - Q$

$Q = 2$

(a) IF $P = 2 \Rightarrow$ MKT DEMAND $\Rightarrow$ HOW MANY DEMANDED AT THAT PRICE IS 2 UNITS $\Rightarrow$ TRUE

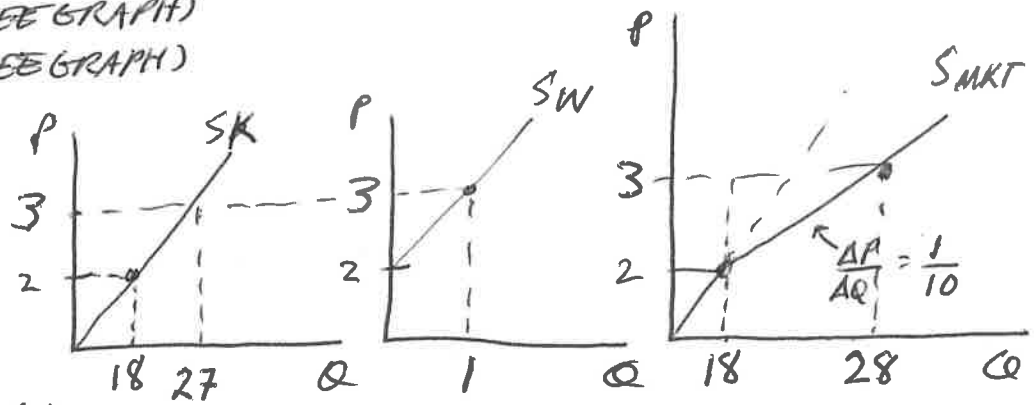
(b) TRUE (SEE GRAPH)

(c) TRUE (SEE GRAPH)

(d) FALSE (SEE GRAPH)

#13. $P = \frac{1}{9}Q$

$P = 2 + Q$



IF $Q = 27$ the $P_{KRUGMAN}$ MUST GET IS 3 $\Rightarrow$ IF $P = 3$ FOR WELLS, SHE WILL SUPPLY $Q = 1$ $\Rightarrow$ SO AT $P = 3 \Rightarrow Q^S_{MKT} = 28$

*IMMEDIATELY, ONCE I SKETCHED THE GRAPHS I KNEW $P = (1/9)Q$ FOR $P \leq 2$! COULD HAVE STOPPED THERE!

MKT SUPPLY

$0 \leq P \leq 2 \Rightarrow P = (1/9)Q$

$P \leq 2 \Rightarrow y = mx + b$

$P = \frac{1}{10}Q + b$

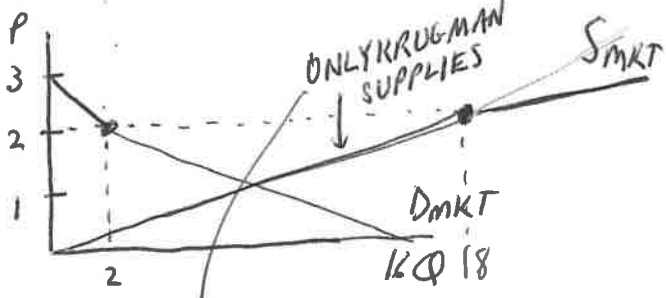
$2 = \frac{1}{10}(18) + b$

$\frac{20}{10} - \frac{18}{10} = b$

$\frac{1}{5} = b$

$P \leq 2 \Rightarrow P = \frac{1}{5} + \frac{1}{10}Q$

14.



$\Rightarrow$ ELIMINATES (a), (c)

SUPPLY: $P = (1/9)(Q)$

DEMAND: $P = (-\frac{1}{2})Q + b \Rightarrow P = \frac{16}{7} - \frac{1}{7}Q$

$0 = (-\frac{1}{2})(16) + b$

$\frac{16}{7} = b$

EXAM CONTINUES ON NEXT PAGE!

TO FIND EQUILIBRIUM:

$63\left[\frac{1}{9}Q = \frac{16}{7} - \frac{1}{7}Q\right]$

$7Q = 9(16) - 9Q$

$16Q = 9(16)$

$Q_e = 9$

IF $Q_e = 9$

$\Rightarrow P = \frac{1}{9}(9) = \#1$

Use the following information to answer the next <u>TWO</u> (2) questions.

Consider a small economy composed of three people: Andreu, Michael and Jerry. They produce tea (T) and coffee (C). The three people together can produce 50 bags of coffee, or 60 tins of tea in one day. Assume that each segment in the joint PPF is linear. Also, consider the following information:

- Two kink points on the joint PPF can be represented in the form of (tea, coffee). The coordinates for these two kink points are (30, 40) and (50, 20).
- Andreu has the comparative advantage in producing tea.
- Jerry has the comparative advantage in producing coffee.

NOT TOO BAD

15. Given the joint PPF, which of the following points (tea, coffee) is **<u>not</u>** feasible?

a. (30,35) FEASIBLE
b. (32,20) FEASIBLE
c. (24,45) NOT FEASIBLE
d. (55,10) FEASIBLE

CHALLENGING

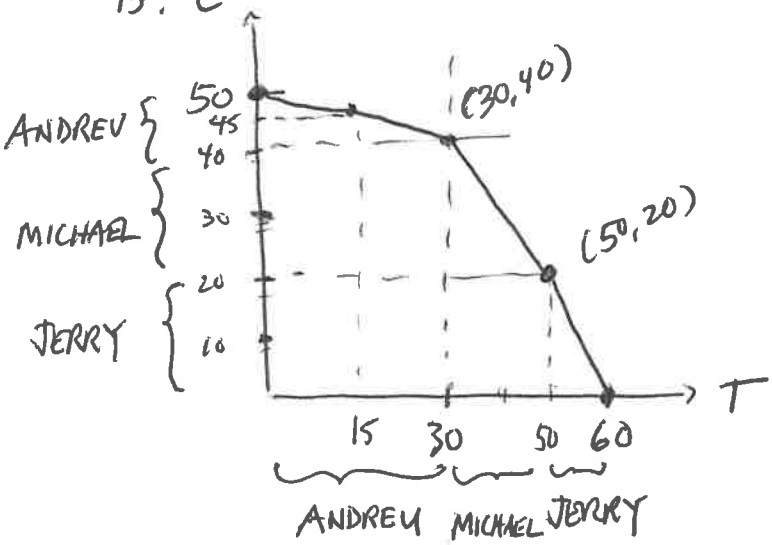
16. Given the above information and holding everything else constant, how many of the following statements are true?

- Jerry's PPF is expressed as: $C = 20 - 2T$ T
- When the economy is producing 45 tins of tea and 25 bags of coffee, Michael is producing 15 tins of tea. T
- When the price of 1 tin of tea is 1/2 bag of coffee, both Michael and Andreu are willing to sell tea at this price. F

a. All three of these statements are false.
b. 1 of these statements is true.
c. 2 of these statements are true.
d. 3 of these statements are true.

Work Space:

15. C



(a) IF $T=30 \Rightarrow C=40$, SO $C=35$ IS FEASIBLE

(b) IF $C=20 \Rightarrow T=50$, SO $T=32$ IS FEASIBLE

(c) IF $C=45 \Rightarrow T=15$, SO $T=45$ NOT FEASIBLE

↳ $C=50-\frac{1}{3}T$

$45=50-\frac{1}{3}T$

$5=\frac{1}{3}T$

$15=T$

(d) IF $T=55 \Rightarrow C=10$, SO $T=55$ & $C=10$ IS FEASIBLE

↳ $C=4-2T$

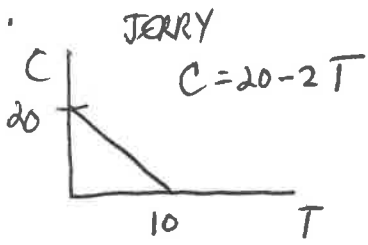
$0=4-2(60)$

$4=120$

$C=120-2T$

IF $T=55 \Rightarrow C=10$

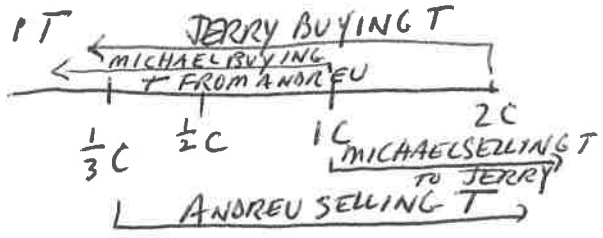
16.



- FIRST STATEMENT: TRUE
- SECOND STATEMENT: TRUE
- THIRD STATEMENT: FALSE

IF (45,25) PRODUCED ⇒ ANDREU 30T, 0C
MICHAEL 15T, 5C
JERRY 0T, 20C
TOTAL 45T, 25C

OC OF 1T FOR JERRY IS 2C
OC OF 1T FOR MICHAEL IS 1C
OC OF 1T FOR ANDREU IS $\frac{1}{3}$C

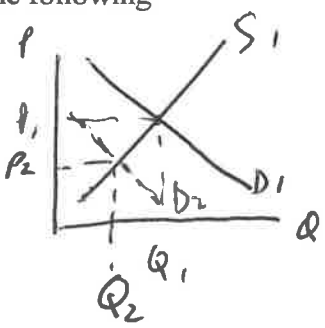


AT ½ C
ANDREU SELLS T
JERRY & MICHAEL BUY T

EXAM CONTINUES ON NEXT PAGE!

EASY

17. There's a nasty rumor going around that all the bread in Guilder has been poisoned by the Prince of Florin! That's sure to make the buyers of Guilder less likely to want bread. Given this information and holding everything else constant, which of the following statements is true for this market?



a. Demand will decrease at every price & the equilibrium price will increase. X

(b) Demand will decrease at every price & the equilibrium price will decrease, TRUE

c. Demand will increase at every price & the equilibrium price will decrease. X

d. Supply will decrease at every price & the equilibrium price will decrease. X

Use the following information to answer the next <u>TWO</u> (2) questions.

Consider the market for giant pumpkins. President Trump's favorite holiday is Halloween and he believes that "yuge" pumpkins are an important part of it. He wants to support this market via a price guarantee program, where the government pays the suppliers the difference between the consumer price and the guaranteed price for every unit sold. This market is characterized by the following, where Q is quantity of giant pumpkins, and P is the price per pumpkin in dollars:

Demand: $P = 100 - (1/4)Q$
Supply: $P = 10 + (1/2)Q$
Guaranteed Price: \$90

NOT HARD

18. After implementing this program, we expect the quantity of giant pumpkins sold to be <u>GREATER</u> than 120 and the market price that consumers pay to be <u>LOWER</u> than \$70.

a. greater; greater
b. lower; lower
(c.) greater; lower
d. lower; greater

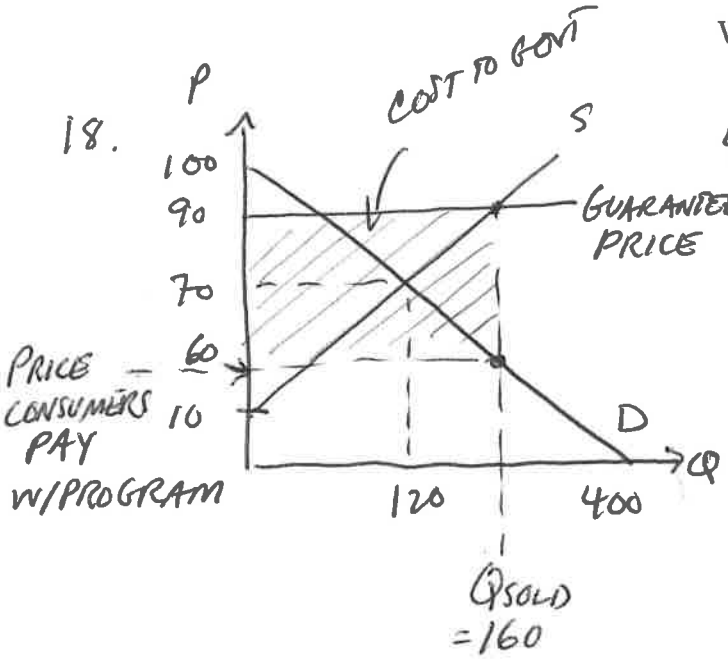
NOT HARD

19. Given this information and assuming the government implements a guaranteed price of \$90 per giant pumpkin, how much will this program cost the government? Hold everything else constant when making this calculation.

(a.) \$4,800
b. \$6,400
c. \$10,800
d. \$3,200

Work Space:

18.



$4\left[100 - \frac{1}{4}Q = 10 + \frac{1}{2}Q\right]$

$400 - Q = 40 + 2Q$

$360 = 3Q$

$120 = Q_e$

$P_e = 10 + \frac{1}{2}(120) = 10 + 60 = 70$

19. IF $P_{GUARANTEED} = 90 \Rightarrow Q^S =$ 160

$90 = 10 + \frac{1}{2}Q^S$

$80 = \frac{1}{2}Q^S$

$160 = Q^S$

IF $Q^S = 160 \Rightarrow P_{CONSUMERS\ WILL\ PAY\ FOR\ THIS\ QUANTITY} =$ _____

$P = 100 - (1/4)(160) = 60$

COST TO GOVT OF PROGRAM $= (90 - 60)(160)$

$= (30)(160) = 4800$

EXAM CONTINUES ON NEXT PAGE!

A LOGIC PUZZLE: SOME CHALLENGE HERE

20. The market for designer pizzas is defined by the following supply and demand equations where Q is the quantity of pizzas and P is the price per pizza measured in dollars:

Demand: $Q = 20 - (2/5)P$
Supply: $Q = (3/5)P$

An increase in the cost of inputs, such as gold flakes, results in the supply curve shifting such that the slope of the new supply curve is greater than the slope of the initial supply curve. This shift in supply results in the new equilibrium price in this market being 5 dollars greater than the initial equilibrium price. You also know that the new supply curve goes through $(Q, P) = (0, 0)$. Assume nothing else changes in this market. Find the equation of the new supply line:

a. $Q = (2/5)P$
b. $Q = (3/5)P + 5$
c. $Q = (5/2)P$
d. $Q = (5/2)P - 52.5$

SOME WORK: NOT TOO BAD

21. Suppose the market for cranberries can be described by the following supply and demand equations where P is the price per unit of cranberries and Q is the number of units of cranberries:

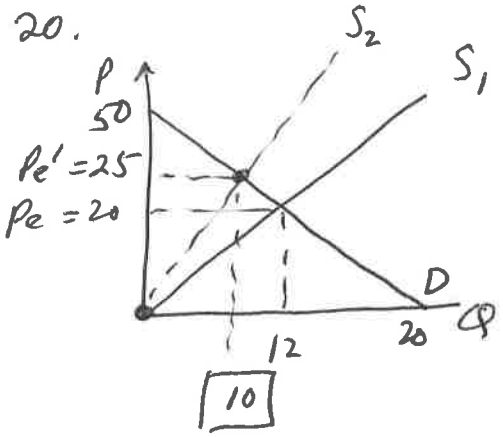
Demand: $P = 60 - Q$
Supply: $P = 2Q$

The government plans to implement a price support program, in which the government sets a price floor and purchases the excess supply from producers. Suppose this program results in an excess supply of 15 units of cranberries. What are the values of consumer surplus (CS), producer surplus (PS), and cost to the government when this program is implemented in this market? Assume there are no storage costs with this price support program.

a. CS = \$100; PS = \$400; Cost to the government = \$600
b. CS = \$50; PS = \$625; Cost to the government = \$750
c. CS = \$50; PS = \$400; Cost to the government = \$750
d. CS = \$50; PS = \$200; Cost to the government = \$600

Work Space:

20.



10

FIND THE INITIAL EQUILIBRIUM:

$$20 - (2/5)P = (3/5)P$$
$$20 = P$$
$$Q = (3/5)(20) = 3(4) = 12$$

NEW SUPPLY CURVE GOES THROUGH $(Q, P) = (0, 0)$

ALSO, NEW EQUILIBRIUM PRICE IS \$5 GREATER THAN OLD EQUILIBRIUM PRICE $\Rightarrow$ SO $P_e' = 25$

IF $P_e' = 25$, WHAT IS Q^D AT THIS PRICE?

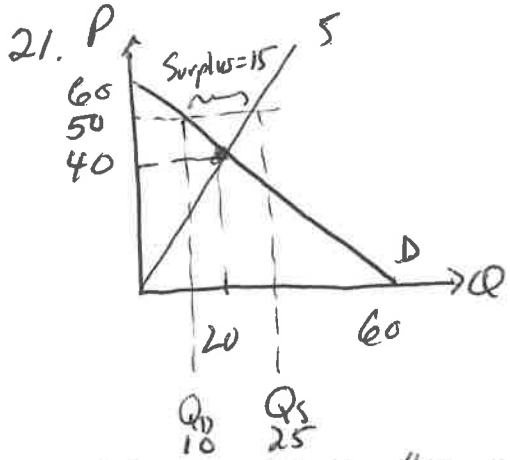
$$Q^D = 20 - (2/5)(P_e') = 20 - (2/5)(25)$$
$$Q^D = 20 - 10 = 10$$

SO $(Q, P) = (0, 0)$ and $(10, 25)$ ARE ON NEW SUPPLY CURVE

$$P = \frac{25}{10} Q + 0$$

$\boxed{P = \frac{5}{2} Q}$ or $\boxed{Q = \frac{2}{5} P}$!

21.



$D: Q^D = 60 - P$
$S: Q^S = \frac{1}{2} P$

$$60 - Q = 2Q$$
$$60 = 3Q$$
$$20 = Q$$

$$Q^S - Q^D = 15$$
$$\frac{1}{2}P - (60 - P) = 15$$
$$\frac{3}{2}P = 75$$
$$P = 75\left(\frac{2}{3}\right) = 50$$

$Q^D = 60 - 50 = 10$
$Q^S = \frac{1}{2}(50) = 25$

$CS = \frac{1}{2}(60 - 50)(10) = \$50 \Rightarrow$ ELIMINATES (a)

$PS = \frac{1}{2}(50 - 0)(25) = \$625 \Rightarrow$ ELIMINATES (c) & (d) $\Rightarrow$ ANSWER (B)

COST TO GOVT $= 50(15) = \$750$

EXAM CONTINUES ON NEXT PAGE!

Use the following information to answer the next THREE (3) questions.

The table below shows the maximum amount of each task George and Lenny can complete each day if they use all their time to do so. For example, George can move 10 hay bales if he moves hay all day, or plow 20 acres if he plows all day.

	George	Lenny
Hay Bales Moved	10	50
Acres Plowed	20	20

EASY

22. Which of the following combinations is feasible for Lenny?

a. 10 acres and 28 hay bales.
b. 16 acres and 8 hay bales. FEASIBLE
c. 4 acres and 42 hay bales.
d. 24 acres and 2 hay bales.

SOME WORK

23. George and Lenny decide to work together. They need to move exactly 30 hay bales. If they allocate the work in the most efficient manner, how many acres will they be able to plow with their remaining time?

a. 28 acres
b. 18 acres
c. 8 acres
d. 0 acres

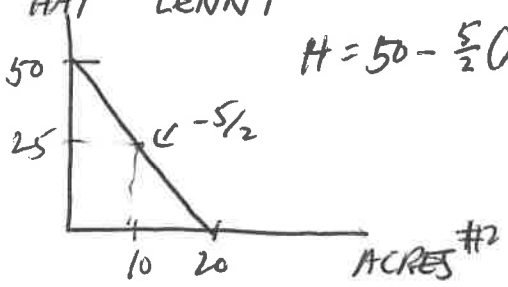
NOT HARD

24. Lenny hurt his wrist last week and while this injury did not change his ability to plow acres at all, it reduced the total number of hay bales he can move to, at most, 20 bales of hay. Given this information and holding everything else constant, which of the following statements is now true?

a. Lenny has the absolute advantage in acres plowed.
b. George has the absolute advantage in moving hay bales.
c. Lenny's opportunity cost of plowing an acre is lower than it used to be. TRUE
d. George has comparative advantage in moving hay bales.

Work Space:

22. #1 HAY LENNY



$H = 50 - \frac{5}{2}(A)$

a) NOT FEASIBLE

b) IF $A = 16$

$H = 50 - \frac{5}{2}(16) = 10$

SO $H = 8$ IS FEASIBLE

COULD STOP HERE!

c) IF $A = 4$

$H = 50 - \frac{5}{2}(4) = 40 \Rightarrow H = 42$

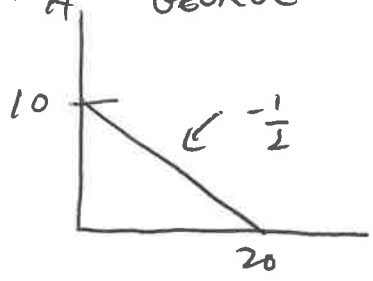
NOT FEASIBLE

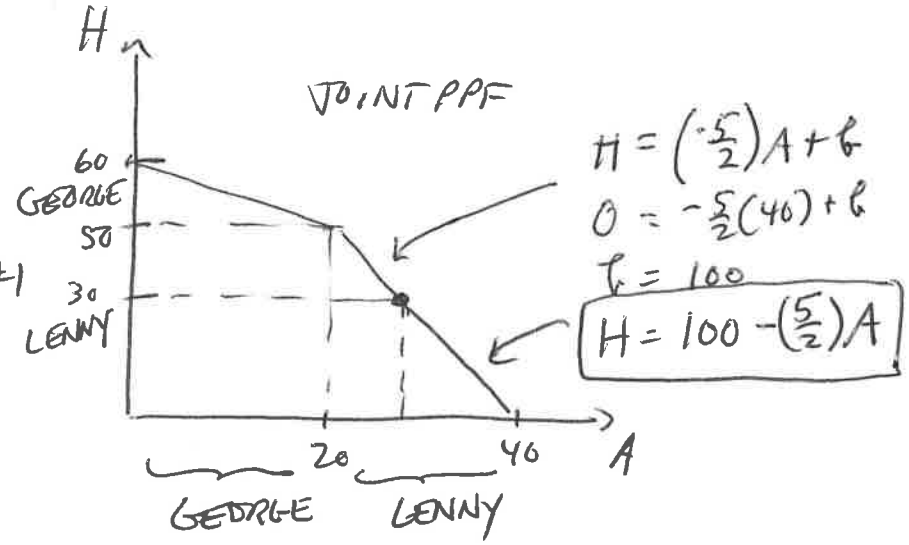
D) IF $A = 24 \Rightarrow$ LENNY CAN'T PRODUCE $A = 24$!

$H = 50 - \frac{5}{2}(24) = -10$

NOT FEASIBLE

23. #2 H GEORGE





$H = \left(-\frac{5}{2}\right)A + b$

$0 = -\frac{5}{2}(40) + b$

$b = 100$

$H = 100 - \left(\frac{5}{2}\right)A$

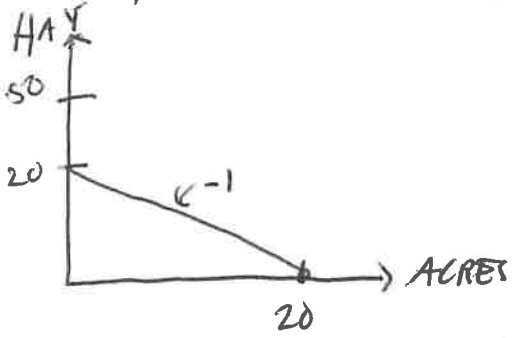
IF $H = 30 \Rightarrow$

$30 = 100 - \frac{5}{2}A$

$\frac{5}{2}A = 70$

$A = 70\left(\frac{2}{5}\right) = \frac{140}{5} = 28$

24.



(a) NOT TRUE; BOTH CAN PLOW 20 A MAX.

(b) NOT TRUE; LENNY CAN MOVE 20 HAY BALES

(c) TRUE: $-1H$ VS $-5/2H$

(d) NOT TRUE: GEORGE STILL HAS COMP ADV IN PLOWING: $-\frac{1}{2}H$ VS $-1H$

EXAM CONTINUES ON NEXT PAGE!

Use the following information to answer the next THREE (3) questions.

In Country UW, the demand and supply curves in the market for green peppers can be described by the following equations, where P is the price per unit of green peppers and Q is the quantity of green peppers:

Market demand for green peppers: $Q = 140 - 10P$
Market supply of green peppers: $Q = 5P - 10$

EASY

25. Given this information and holding everything else constant, what is the equilibrium price and quantity in the market for green peppers?

a. $P^* = \$40$ and $Q^* = 10$
b. $P^* = \$10$ and $Q^* = 40$
c. $P^* = \$6$ and $Q^* = 80$
d. $P^* = \$80$ and $Q^* = 6$

SOME WORK

26. The government implements a price support program in the market for green peppers where it sets a price floor and agrees to buy any surplus green peppers in the market at this price floor price. Now the quantity of green peppers bought by consumers is only half of the quantity they bought at the initial equilibrium before the price support program was implemented. Given this information and holding everything else constant, what will be the cost of the program to the government? Assume there are no storage costs associated with this program.

a. $360
b. $240
c. $180
d. $600

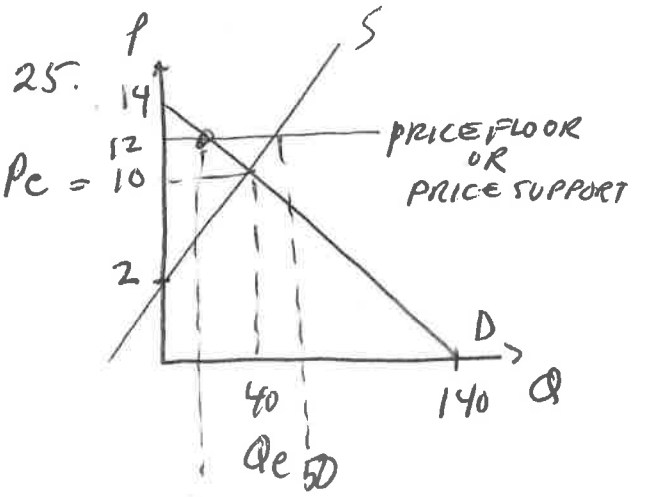
NOT TOO HARD

27. Which of the following statements is **false** about the price support program that was implemented in the market for green peppers?

a. Producers' revenue increases as a result of the implementation of this program. T
b. Consumer surplus decreases compared with the initial equilibrium. T
c. Government expenditure on this price support program will increase if the price floor price is increased. T
d. Producer surplus with the price support program is larger than the government expenditure under the price support program. F

Work Space:

25.



$140 - 10P = 5P - 10$

$150 = 15P$

$10 = P$

IF $P = 10 \Rightarrow Q^S = 5(10) - 10 = 40$

↑ QUANTITY CONSUMERS BUY W/ PRICE SUPPORT PROGRAM

IF $Q^D = 20 \Rightarrow$ $Q^D = 140 - 10P$

$20 = 140 - 10P$

$10P = 120$

$P = 12$

IF $P = 12 \Rightarrow$ $Q^S = 5(12) - 10 = 50$

GOVT BUYS $50 - 20 = 30$ UNITS AT \$12/UNIT

COST TO GOVT = $(30)(12) = \$360$

26. (a) PRODUCERS' REVENUE ↑ $\Rightarrow$ $40(10) = \$400$ INITIALLY
W/ PROGRAM $(50)(12) = \$600$ } TRUE

(b) CS INITIALLY $= \frac{1}{2}(14-10)(40) = 2(40) = \$80$ } TRUE
CS W/ PROGRAM $= \frac{1}{2}(14-12)(20) = \$20$

(c) TRUE, IF P_{FLOOR} INCREASES $\Rightarrow$ SURPLUS GOVT BUYS ↑
AND PRICE/UNIT ↑
$\Rightarrow$ ANSWER MUST BE (d)

(d) PS W/ PRICE SUPPORT PROGRAM $= \frac{1}{2}(12-2)(50) = \$250$
$\$250 < \$360 \Rightarrow$ (d) IS FALSE

EXAM CONTINUES ON NEXT PAGE!

Use the following information to answers the next TWO (2) questions.

A company plans to offer health insurance for its employees. The firm currently employs 30 people who have the following healthcare costs:

Group A: 5 people cost $100,000 each per year
Group B: 10 people cost $10,000 each per year
Group C: 10 people cost $5,000 each per year
Group D: 5 people cost $2,000 each per year

The healthcare plan takes an administration fee of 10% on the total healthcare costs of the plan. There is no additional profit margin.

EASY

28. Assuming all employees are required to participate in the plan, what is the premium cost per employee per year?

a. $22,000
b. $22,200
c. $24,000
d. $24,200

EASY

29. In the next year, the requirement to participate is waived, and the administrative fee is removed. Assuming employees expect the price to remain similar to the price in the first year, who remains in the plan? What is the new actual premium for the participants who elect to get health insurance?

a. Group A: $100,000
b. Group A: $110,000
c. Groups A+B: $40,000
d. Groups A+B: $44,000

END OF EXAM

End of Exam! Thank you!

28.

5	@	$100.000	=	500,000
10	@	$ 10,000	=	100,000
10	@	$5,000	=	50,000
5	@	$2,000	=	10,600

660,000

10% of 660,000 → 66,000

726000 TOTAL NEEDED

$\frac{\$726000}{30} = \frac{72600}{3} = \$24,200$/PERSON

29. HEALTH INS ONLY FOR THOSE IN PLAN

⇒ 5 @ $100,000 ⇒ PREMIUM WILL BE $100,000/PERSON

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