

Economics 102  
Spring 2017  
February 28, 2017  
First Midterm

Name ANNOTATED KEY  
TA Name \_\_\_\_\_  
Discussion Section # \_\_\_\_\_  
Student ID # \_\_\_\_\_

Version 1

**DO NOT BEGIN WORKING UNTIL THE INSTRUCTOR TELLS YOU TO DO SO.  
READ THESE INSTRUCTIONS FIRST.**

You have 75 minutes to complete the exam, **including filling in your scantron**. The exam consists of **10 binary choice questions worth 1.5 points each** and **20 multiple choice questions worth 3 points each**. **Total number of points on the exam is 75 points**. Please accurately and completely provide your **name, ID number, discussion section number, version number, and TA name** on the scantron sheet and the exam booklet. Answer all questions on the scantron sheet with a #2 pencil. There are **16 printed pages** in this exam, including this cover sheet. **DO NOT PULL THE EXAM APART OR REMOVE THE STAPLE.**

**WARNING: NO COMMUNICATION OR CALCULATING DEVICES, OR FORMULA SHEETS ARE ALLOWED. NO CONSULTATION AND CONVERSATION WITH OTHERS ARE ALLOWED WHILE YOU ARE TAKING THE EXAM OR IN THE EXAM ROOM. ACADEMIC MISCONDUCT IS A SERIOUS OFFENSE AND PUNISHABLE TO THE FULLEST EXTENT.**  
**PICK THE 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. The discussion numbers can be found at the bottom of 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 at the top of this page.
- **If 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 instructors.**

Rosemary Kaiser	Sam Engle	Iuliia Dudareva	Yu-chi Chu
<b>352</b> Fr 8:50 AM Ingraham 122	<b>354</b> Fri 8:50 AM Ingraham 224	<b>331</b> Fri 9:55 AM Van Vleck B131	<b>350</b> Fri 9:55 AM VanVleck B305
<b>355</b> Fri 9:55 AM Van Hise 491	<b>332</b> Fri 11:00 AM Van Hise 367	<b>353</b> Fri 11:00 AM Van Vleck B131	<b>351</b> Fri 11:00 AM VanVleck B129
<b>359</b> Fri 1:20 PM INGRAHAM 115	<b>357</b> Fri 12:05 PM STERLING 2323	<b>358</b> Fri 12:05 PM Van Vleck B219	
<b>328</b> Fri 2:25 PM SSCI 6322	<b>326</b> Fri 1:20 PM INGRAHAM 225	<b>329</b> Fri 2:25 PM SSCI 4308	

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 at least receiving a zero on this exam.

Signed \_\_\_\_\_

### Binary Choice (worth 1.5 points each)

*CAN BE TESTED*  
1. The statement "Taking class attendance will encourage students to attend discussion sections" is a:

- a. Positive statement.
- b. Normative statement.

*DEFINITIONAL*  
2. PPFs have a bowed-out shape because:

- a. The producer of the first few units of a good is the producer that can produce the most of that good.
- b. The producer of the first few units of a good is the lowest-cost producer of the good.

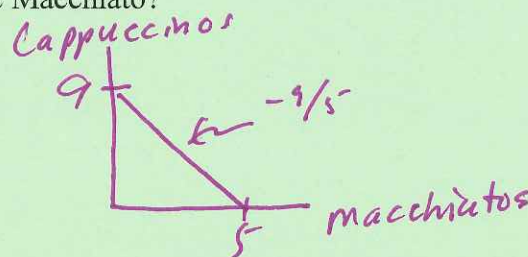
*EASY*  
3. Two employees at a snack stand, Haley and Jacob, make pretzels and popcorn. Haley has a comparative advantage in making pretzels while Jacob has a comparative advantage in making popcorn. If production of these two goods is occurring efficiently, who should be the one to produce the first pretzel?

- a. Haley
- b. Jacob

*→ the person with the comparative advantage*

*EASY*  
4. Suppose that a barista can make 5 Macchiatos or 9 Cappuccinos every ten minutes. What is the opportunity cost of creating one Macchiato?

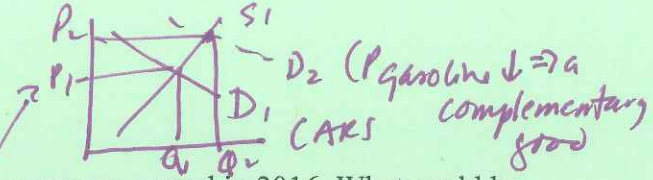
- a. 9/5 Cappuccinos
- b. 5/9 Cappuccinos



NOT TOO HARD

5. General Motors reported an increase in revenues the company earned in 2016. What could be a possible explanation for this increase in revenues?

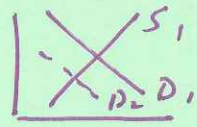
- a. Prices of gasoline fell during this period.
- b. GM announced that they would expand their GM production facilities next year.



S&D ANALYSIS: NOT HARD

6. Consider the market for Turkish Lira (the Lira is the currency unit in Turkey). Assume that due to economic instability foreign investors are less willing to invest in Turkey. Given that the supply of Lira stays the same and holding everything else constant, what will happen to the price of Turkish Lira given this information?

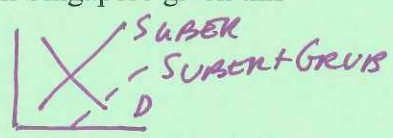
- a. The price of Lira will increase.
- b. The price of Lira will decrease.



S&D ANALYSIS: NOT HARD

7. Uber officially came to the Singapore market in 2012. Two years later a South-Asian startup transportation company, Grub, expanded to Singapore. Given that the demand for these services stayed the same within this period and holding everything else constant, what do you predict happened to the equilibrium price for transportation services in Singapore given this information?

- a. The price for transportation services increased.
- b. The price for transportation services decreased.



NOT HARD

8. Suppose you care more about domestic consumer welfare than domestic producer welfare. If this is true for you, then you will support your country's policy to open up a market to international trade when the world price in that market is greater than the autarky (close market) price.

- a. True
- b. False

⇒ you would support if it Pw is less than closed market price

EASY

9. Stacy works 10 hours per week at the front desk of the SERF. In addition, Stacey works 5 hours a week tutoring Econ 102. If Stacey makes \$15/hour at her desk job and \$25/hour tutoring, and only pays taxes on her work at the SERF, what is the impact her employment has on GDP per week?

- a.  $(\$25 \times 5) + (\$15 \times 10) = \$275$  per week
- b.  $(\$15 \times 10) = \$150$  per week

Tutoring is not going through a legal market

EASY

10. In a simple economy, the government spends \$200 million in the market for goods and services and collects \$200 million in taxes. Consumers spend \$800 million in the market for goods and services and receive \$1000 million in wages, profits, and other forms of income from the factor markets. Firms pay out \$1000 million to the factor markets. What is GDP in this economy? (Hint: draw a circular flow diagram).

- a. \$1000 million
- b. \$800 million

$G = 200$   
 $C = 800$   
 $GDP = G + C + I + (X - M)$   
 $GDP = 1000$

GDP Income Approach  
 HH Income = 1000 = Income Approach  
 Firms payment for factors of production = 1000

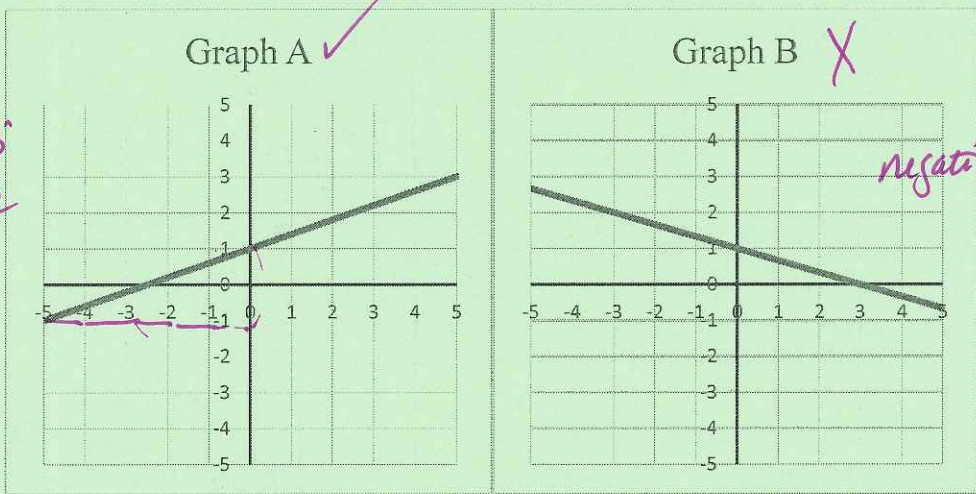
**Multiple Choice (worth 3 points each)**

*EASY*

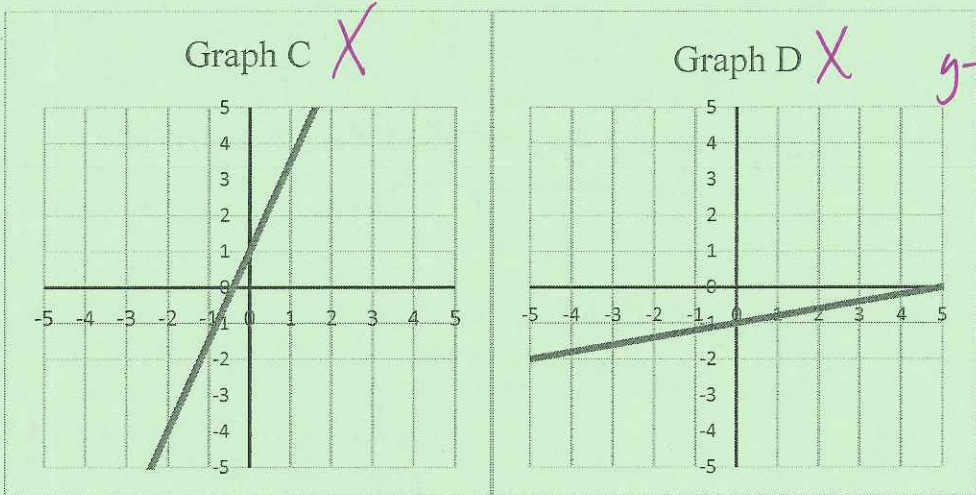
11. Using the following description pick the correct graph: for every 5 unit increase in the x variable, the y variable increases by 2 units. In addition, you are told that the y-intercept is above the origin.

*↳ ⊕ relationship*

*x ↑ by 5  
y ↑ by 2*



*negative relationship*



*y-intercept above origin*

- a. Graph A
- b. Graph B
- c. Graph C
- d. Graph D

NOT TOO BAD

12. Below we have a table of the U.S. unemployment rate and Real Gross Domestic Product. What appears to be a general relationship between the unemployment rate and Real GDP?

Quarter	Unemployment Rate	Real GDP, (billion 2009 dollars)
Q4 2013	6.9	15793.9
Q1 2014	6.7	15747.0
Q2 2014	6.2	15900.8
Q3 2014	6.1	16094.5
Q4 2014	5.7	16186.7
Q1 2015	5.5	16269.0
Q2 2015	5.4	16374.2
Q3 2015	5.1	16454.9
Q4 2015	5.0	16490.7
Q1 2016	4.9	16525.0
Q2 2016	4.9	16583.1
Q3 2016	4.9	16727.0
Q4 2016	4.7	16804.8

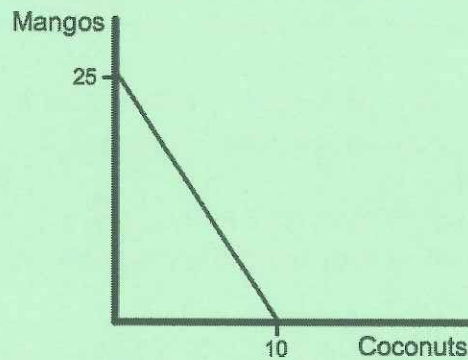
As U ↓, Real GDP ↑

Data Source: <https://fred.stlouisfed.org/>

- a. Real GDP appears to be a multiple of the unemployment rate. X
- b. As the unemployment rate falls, in general, real GDP rises. ✓
- c. We can conclude that the unemployment rate has strictly been between 4.7 and 6.9 percent over the entire U.S. history. Don't have that data. X
- d. Whenever real GDP is above \$16,450 billion, the unemployment rate is below 5.0%. No

EASY

13. Given the following PPF, what is the opportunity cost of producing five mangos?



- a. 2/5 coconuts
- b. 5 coconuts
- c. 2 coconuts
- d. 12.5 coconuts

OC of 1 C is  $\frac{5}{2} M$   
OC of 1 M is  $\frac{2}{5} C$

OC of 5 M is  $5(\frac{2}{5})C = 2C$

Use the following information to answer the following 4 questions.

France, America, and Hungary each produce maple syrup and corn. Suppose that in one year France can produce 9 million bushels of corn or 3 million quarts of maple syrup. America can produce 12 million bushels of corn or 6 million quarts of maple syrup, and Hungary can produce 5 million bushels of corn or 1 million quarts of maple syrup. All three countries have linear production possibility frontiers in these two goods.

*PREDICTABLE*  
14. America's opportunity cost of producing an additional bushel of corn or an additional quart of maple syrup are  $\frac{1}{2}$  S and  $2$  C respectively. France's opportunity cost of producing an additional bushel of corn or an additional quart of maple syrup are  $\frac{1}{3}$  S and  $3$  C respectively.

- a. 1/6 quart of syrup; 6 bushels of corn; 1/2 quart of syrup; 2 bushels of corn
- b. 2 quarts of syrup; 1/2 bushel of corn; 1/3 quart of syrup; 3 bushels of corn
- c. 1/3 quart of syrup; 1/2 bushel of corn; 3 quarts of syrup; 2 bushels of corn
- d. 1/2 quart of syrup; 2 bushels of corn; 1/3 quart of syrup; 3 bushels of corn ✓

*SEE NEXT PAGE: NOT HARD*  
15. Which country has the comparative advantage in producing corn? Which country has the comparative advantage in producing maple syrup?

- a. America has the comparative advantage in producing corn while France has the comparative advantage in producing maple syrup. X
- b. America has the comparative advantage in producing both corn and maple syrup. X
- c. Hungary has the comparative advantage in producing corn while France has the comparative advantage in producing maple syrup. X
- d. Hungary has the comparative advantage in producing corn while America has the comparative advantage in producing maple syrup. ✓

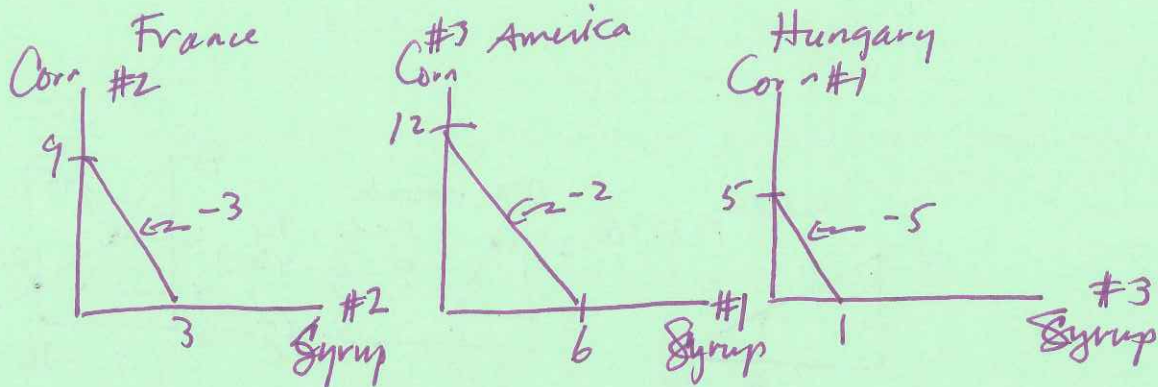
*SEE NEXT PAGE - NOT TOO HARD*  
16. Consider the scenario where 8 million bushels of corn and 8 million quarts of maple syrup are produced in total between the three countries. In order for this scenario to be possible, which of the following is true?

- a. America is producing 10 million bushels of corn and 1 million quarts of syrup.
- b. Hungary is producing 4 million bushels of corn while France and America are each producing 2 million bushels of corn.
- c. France is producing 3 million bushels of corn and 2 million quarts of syrup. ✓
- d. France is producing 5 million bushels of corn and 1 million quarts of syrup.

*SOME WORK*  
17. At which of the following prices does trade NOT take place between these three countries?

- a. The price for one bushel of corn is 1/6 of a quart of maple syrup. X
- b. The price for one bushel of corn is 1/4 of a quart of maple syrup. ✓
- c. The price for one quart of maple syrup is 5/2 bushels of corn. ✓
- d. The price for one quart of maple syrup is 4 bushels of corn. ✓

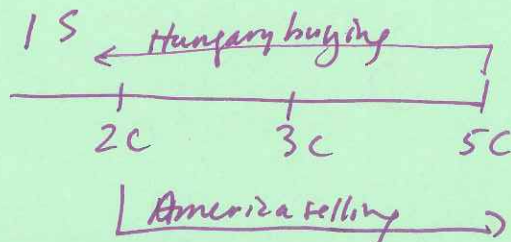
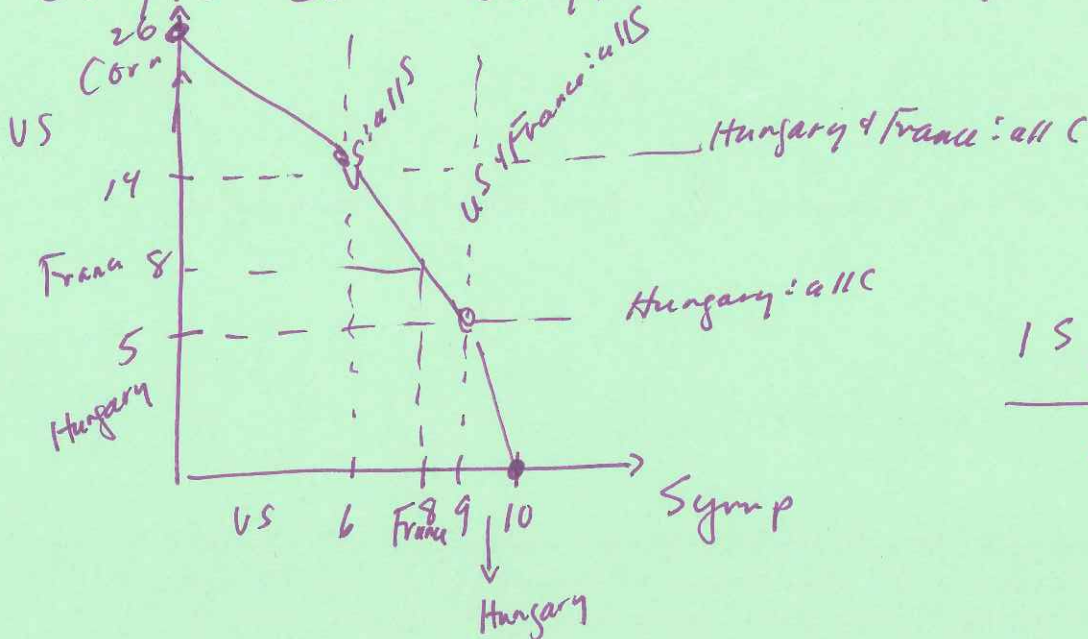
Work Page: Do Not Detach this Page from your exam!



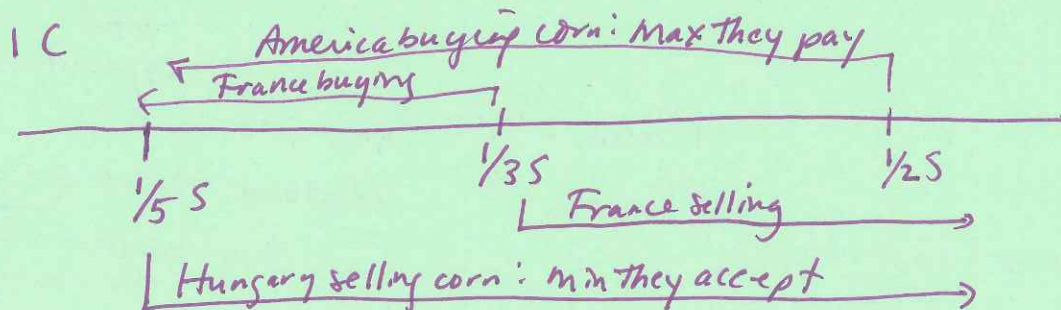
OC of 1S is 3C  
 OC of 1C is  $\frac{1}{3}S$

OC of 1S is 2C  
 OC of 1C is  $\frac{1}{2}S$

OC of 1S is 5C  
 OC of 1C is  $\frac{1}{5}S$



$(8, 9) \Rightarrow$  US 6 syrup      Hungary 5 corn  
                                  France 2 syrup      France 7 corn



Use the following information to answer **the following 2 questions.**

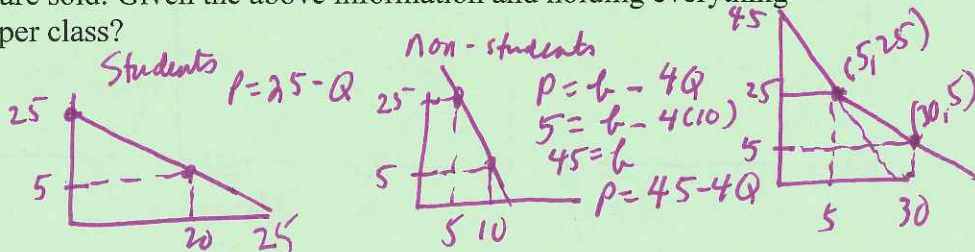
SOME WORK? HARDER

18. The young economist discovered the following linear demand schedules for fitness classes:

Price of fitness class	Quantity demanded by Students	Quantity demanded by Non-students
\$ 5	20	10
\$ 25	0	5

Suppose that 20 fitness classes are sold. Given the above information and holding everything else constant, what is the price per class?

- $P = \$10$  per class
- $P = \$13$  per class
- $P = \$8$  per class
- $P = \$12$  per class



A CHALLENGE

19. Now suppose that the market determines the equilibrium price of fitness classes. The demand information from the previous question has not changed, but you now know that the market supply curve for fitness classes is given by the following equation where  $P$  is the price per fitness class and  $Q$  is the quantity of fitness classes:

$$\text{Market Supply Curve: } P = 2 + Q$$

At the market equilibrium price, students will buy 8 classes, while Non-students will buy 7 classes.

- 5 classes; 8 classes
- 7 classes; 6 classes
- 8 classes; 7 classes
- 9 classes; 6 classes

SOME WORK

20. Every month Anna purchases 2 movie tickets at  $P = \$6$  and 4 textbooks at  $P = \$2$ . Assume that the price of tickets decreased by 25%, while the price for textbooks increased by 50%. Given this information and assuming Anna still purchases 2 movie tickets and 4 textbooks, what is the percentage change in her total expenditures holding everything else constant? Anna's expenditures

- Increase by 25%.
- Decrease by  $(100/21)\%$ .
- Increase by 5%.
- Decrease by 50%.

$$P_{\text{movie}} = \$6 \quad Q_{\text{movie}} = 2 \Rightarrow P \times Q = 12$$

$$P_{\text{text}} = \$2 \quad Q_{\text{textbooks}} = 4 \quad P \times Q = 8$$

$$\text{total expenditure} = 20$$

$$P'_{\text{movie}} = 4.50 \quad Q_{\text{movie}} = 2 \Rightarrow P' \times Q = 9$$

$$P'_{\text{text}} = 3 \quad Q_{\text{textbooks}} = 4 \Rightarrow P' \times Q = 12$$

$$\text{total expenditure} = 21$$

$$\% \Delta \text{ in exp} = \left( \frac{21 - 20}{20} \right) 100\%$$

$$= \frac{1}{20} (100\%) = 5\%$$



18. Lower segment of mkt D:

$$(Q, P) = (5, 25) \text{ \& } (30, 5)$$

$$\text{slope} = -\frac{20}{25} = -\frac{4}{5}$$

$$y = mx + b$$

$$P = (-4/5)Q + b$$

$$25 = (-4/5)(5) + b$$

$$29 = b$$

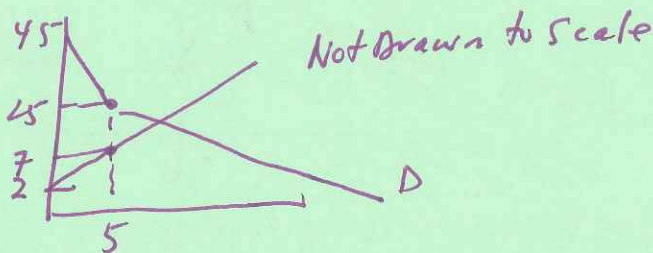
$$P = 29 - (4/5)Q : \text{Equation for lower segment of Market D}$$

$$\text{if } Q = 20 \Rightarrow P = 29 - 4/5(20)$$

$$P = 29 - 16 = 13/\text{class}$$

19. S:  $P = 2 + Q$

$$\text{if } Q = 5 \Rightarrow P = 7$$



So need

$$D: P = 29 - (4/5)Q$$

$$S: P = 2 + Q$$

$$29 - (4/5)Q = 2 + Q$$

$$27 = \frac{9}{5}Q$$

$$Q = 27 \left( \frac{5}{9} \right) = 15$$

$$P = 2 + Q = 17$$

$$\text{at } P = 17 \text{ students: } P = 25 - Q \Rightarrow Q_{\text{students}} = 8 \text{ classes}$$

$$\text{non-student: } P = 45 - 4Q \Rightarrow Q_{\text{non-student}}$$

$$17 = 45 - 4Q$$

$$4Q = 28$$

$$Q = 7 \text{ for non-student}$$

$$8 + 7 = 15 \text{ classes in all!}$$

Use the following information to answer the following 3 questions.

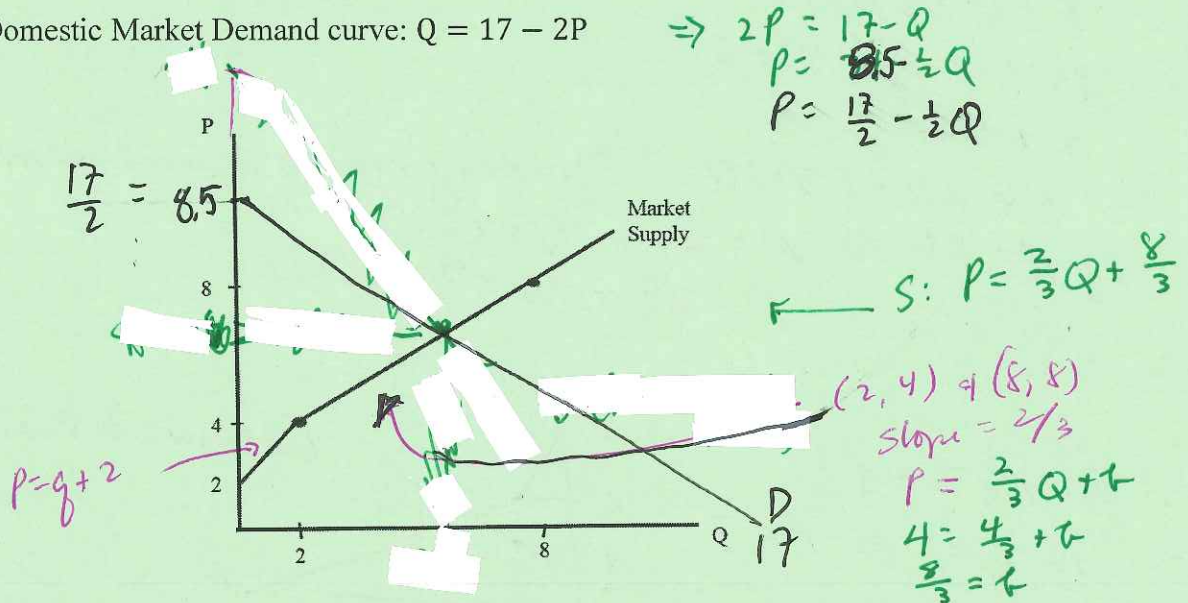
Imagine on Crusoe Island, there are two producers of coconut milk: Robinson and Joy. Their individual supply curves are given by the following equations where  $P$  is the price per bottle of coconut milk and  $q$  is the number of bottles produced by the individual:

Robinson's supply function:  $P = q + 2$

Joy's supply function is  $P = 2q + 4$

The market supply is given in the following figure. In addition, you are provided the equation for the domestic market demand for coconut milk where  $Q$  is the market quantity as:

Domestic Market Demand curve:  $Q = 17 - 2P$



21. Suppose the world price for one bottle of coconut milk is \$ 3. Which of the following statements is correct after Crusoe Island opens this market to international trade.

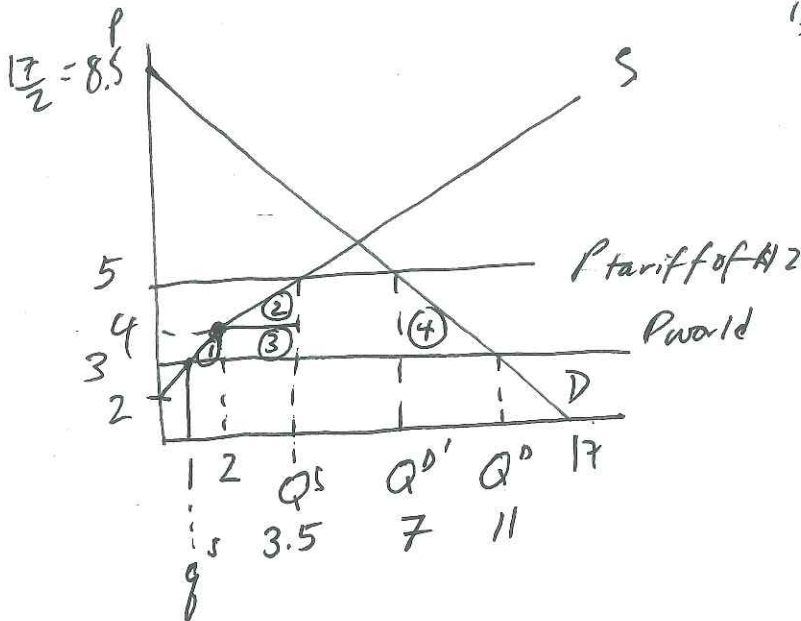
- a. Joy supplies 1 bottle of coconut milk. *No*
- b. Robinson supplies 1 bottle of coconut milk. *Yes*
- c. Crusoe Island imports 7 bottles of coconut milk. *No*
- d. Crusoe Island imports 8 bottles of coconut milk. *No*

22. Suppose the government implements a tariff on imported coconut milk after opening this market to trade. The government wants the tariff policy to not hurt consumers too much (that is, domestic consumers will be impacted, but with the smallest impact of the choices), while at the same time, allowing both Joy and Robinson to stay in the market for coconut milk. Given these goals, the information you have been given and holding everything else constant, which of the following tariff policies will the government most likely take? The government implements a tariff of:

- a. \$0 per bottle of coconut milk. *Joy not in market*
- b. \$0.50 per bottle of coconut milk. *Joy not in market*
- c. \$1.5 per bottle of coconut milk. *Joy in market, smaller impact on consumers*
- d. \$2.00 per bottle of coconut milk. *Joy in market, larger impact on consumers*

23. Suppose the tariff on imported coconut milk is \$ 2 dollar per bottle. Given this tariff, the provided information and holding everything else constant, what is the deadweight loss of this tariff policy?

- a. \$6.50
- b. \$6.75**
- c. \$7.00
- d. \$7.25



if  $P = P_w = 3$   $Q^D: Q = 17 - 2(3) = 11$   
 Mkt Supply is just Robinson:  
 $P = q + 2$   
 $3 = q + 2 \Rightarrow q^S = 1$

if  $P = 5$   
 $Q^S: P = \frac{2}{3}Q^S + \frac{8}{3}$   
 $5 = \frac{2}{3}Q^S + \frac{8}{3}$   
 $15 = 2Q^S + 8$   
 $7 = 2Q^S$   
 $3.5 = Q^S$   
 $Q^D: Q^D = 17 - 2(5) = 7$

DWL = area 1 + area 2 + area 3 + area 4  
 DWL = .50 + .75 + 1.50 + 4 = \$6.75

area 1 =  $\frac{1}{2}(4-3)(2-1) = .50$

area 2 =  $\frac{1}{2}(5-4)(3.5-2) = .75$

area 3 =  $(1)(1.50) = 1.50$

area 4 =  $(\frac{1}{2})(5-3)(11-4) = 4$

.50
1.75
1.50
4.00
<hr/>
6.75

EXAM CONTINUES ON NEXT PAGE!!

Use the following information to answer the following 2 questions.

Suppose the world price of coffee mugs is 3 dollars. You are also given the following equations for the domestic supply and domestic demand for coffee mugs where P is the price per mug and Q is the quantity of mugs:

Domestic Market Supply:  $Q = 3P$

Domestic Market Demand:  $Q = 20 - P$

24. Which of the following policies would result in the domestic price of mugs being lower than the closed market price of domestic mugs and greater than the world price?

- a. A tariff of three dollars on each imported mug. ~~X~~
- b. A tariff of two dollars on each imported mug. ~~X~~
- c. An import quota restricting imports to 7 coffee mugs.
- d. An import quota restricting imports to 9 coffee mugs.

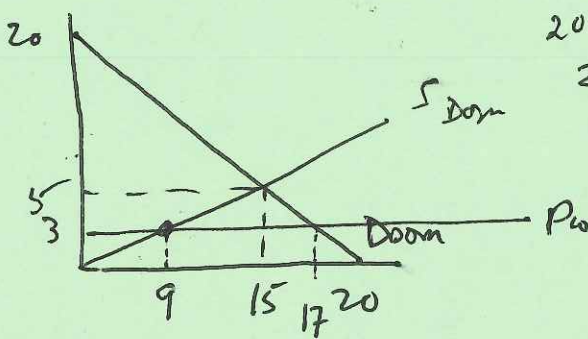
25. Given the above information and holding everything else constant, what is the consumer surplus and producer surplus if the government restricts imported coffee mugs to 4 imported mugs?

- a. Consumer surplus is \$130; Producer surplus is \$24. ~~X~~
- b. Consumer surplus is \$110; Producer surplus is \$30. ~~X~~
- c. Consumer surplus is \$128; Producer surplus is \$24.
- d. Consumer surplus is \$128; Producer surplus is \$30.

JUST SOME REASONING

NOT HARD

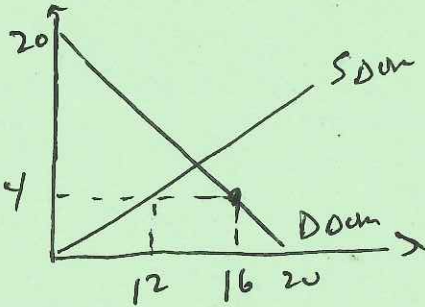
24.



$20 - P = 3P$   
 $20 = 4P$   
 $P = 5$

At  $P_w \Rightarrow \text{Imports} = 8$

25.



$Q^S + \text{Import Quota} = Q^D$   
 $3P + 4 = 20 - P$   
 $4P = 16$   
 $P = 4$

$CS = \frac{1}{2}(20 - 4)(16) = 8(16) = \$128$   
 $PS = \frac{1}{2}(4 - 0)(12) = \$24$

**HARD**

26. Consider the market for smartphones in China, where  $Q$  is the quantity of smartphones measured in millions and  $P$  is the price for each unit of smartphone in Yuan, ¥. There are 3 main smartphone producers: Huawei, Apple and Vivo. The firm supply curves are provided in the following equations:

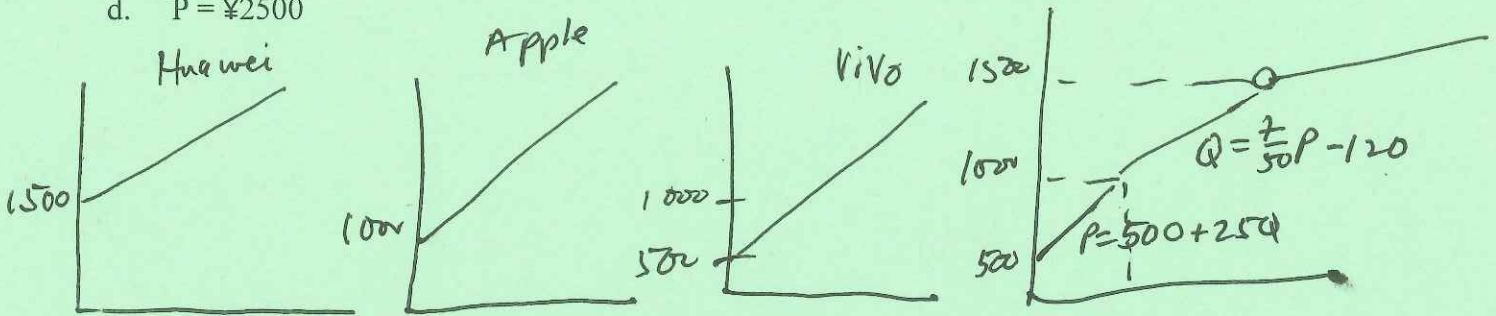
Supply for Huawei:  $P = 1500 + 10Q$   
 Supply for Apple:  $P = 1000 + 10Q$   
 Supply for ViVo:  $P = 500 + 25Q$

You are also provided the market demand curve for smartphones in China:

Market Demand:  $Q = 530 + (-4/25)P$

Given this information, what is the equilibrium price in the Chinese market for smartphones?

- a.  $P = ¥1500$
- b.  $P = ¥2000$**
- c.  $P = ¥2200$
- d.  $P = ¥2500$



Vivo + Apple:  $P = 500 + 25Q \Rightarrow 25Q = P - 500$   
 $Q_V = \frac{1}{25}P - 20$   
 $P = 1000 + 10Q \Rightarrow 10Q = P - 1000$   
 $Q_A = \frac{1}{10}P - 100$   
 $Q_V + Q_A = \frac{7}{50}P - 120$   
 $Q_{VA} = \frac{7}{50}P - 120$

$Q_T = \frac{12}{50}P - 270$

Vivo + Apple + Huawei  
 $P = 1500 + 10Q_H$   
 $Q_H = \frac{1}{10}P - 150$

DEADEND!  
NEED TO  
ADD  
ALL  
3 FIRMS!

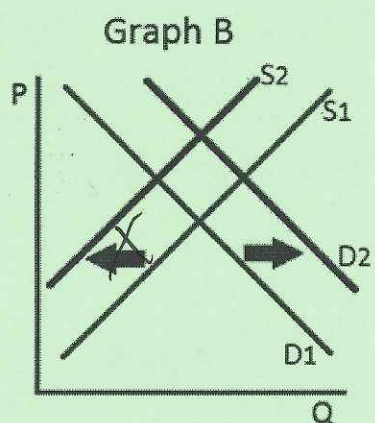
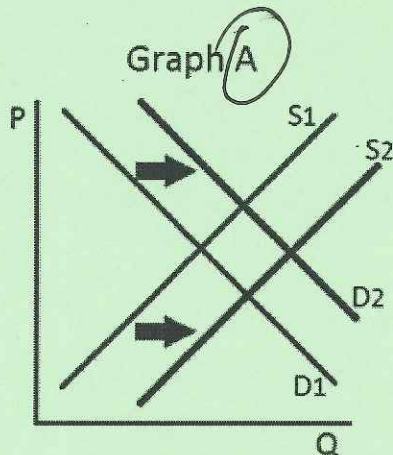
$\frac{7}{50}P - 120 = 530 + (-4/25)P$   
 $\frac{15}{50}P = 650$   
 $P = 650 \left(\frac{50}{15}\right) = \frac{6500}{3} = 2166 \dots$  not answers

$\frac{12}{50}P - 270 = 530 + (-4/25)P$   
 $\frac{20}{50}P = 800$   
 $P = 800 \left(\frac{50}{20}\right)$   
 $P = 2000$

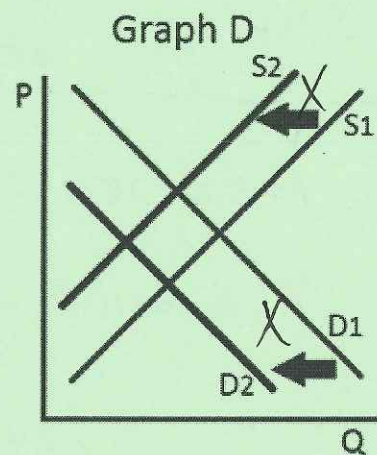
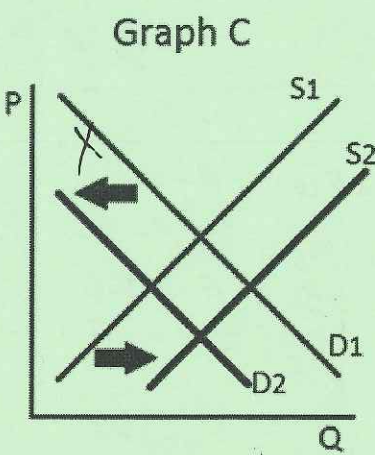
EXAM CONTINUES ON NEXT PAGE!!

SOME READING

27. According to David Robinson of Rutgers University, the snowfall season has become shorter in many well-known skiing places such as the Alps, as natural snow arrives later and melts earlier than it once did. As a result of this change in weather patterns, more and more resorts seek alternative ways to satisfy snow-seekers. A primary alternative way to satisfy snow seekers is through the use of more artificially made snow. In addition to the change in weather patterns of recent years, recent research into snowmaking equipment has resulted in the development of cheaper snowmaker equipment. Which graph shows the changes in the market for snowmaking equipment?



S shift right  
D shift right



- a. Graph A
- b. Graph B
- c. Graph C
- d. Graph D

28. Below we have a table summarizing the daily activities of a local bakery/cafe, including the flour mill where they get their flour and the coffee roaster where they get their coffee. You are also told that the total profits for the three firms total \$200. Assume that this table includes all relevant costs, all other factor payments and all relevant sales.

NOT TOO BAD

	Flour Mill	Roastery	Bakery
Cost of ingredients (inputs)	\$0	\$0	\$120 flour, \$150 coffee
Payroll to workers	\$100	?	\$120
Sales of product	\$120	\$150	\$500

Given the above information and holding everything else constant, what was the Roastery's payroll to workers?

- a. \$20
- b. \$80
- c. \$110
- d. \$100

$$\begin{matrix} 120 \\ 150 \\ \hline 270 \end{matrix} = \text{GDP VA}$$

$$220 + ? + 200 = \text{GDP}$$

$$? = 500 - 420$$

$$? = 80$$
 factor payments approach

29. Below we have a table summarizing spending in a small economy (all values are in millions of US dollars):

NOT TOO HARD

Category	Amount in millions of dollars
Government spending	
Federal	\$3,500
Total Local Government Spending	\$2,000
Consumer Spending	
Goods	\$2,300
Services	\$5,000
Private Investment Spending	\$4,000
Trade Spending	
Exports	\$3,800
Imports	?

If GDP for this small economy is \$17,000 million, what is the dollar value of imports for this economy?

- a. \$3,600 million
- b. \$0 million
- c. \$2,000 million
- d. \$1,600 million

$$\text{GDP} = C + I + G + (X - IM)$$

$$17,000 = 7,300 + 4,000 + 5,500 + 3,800 - IM$$

$$17,000 = 20,600 - IM$$

$$IM = 3,600$$

**EXAM CONTINUES ON NEXT PAGE!!**

$$\begin{matrix} 7300 \\ 4000 \\ 5500 \\ 3800 \\ \hline 20600 \end{matrix}$$

NOT  
HARD

30. Bob runs a burger joint. Each burger contains \$1.50 of meat, \$0.50 of tomato, \$0.25 of lettuce, and the buns are \$1.00 each. He buys all the materials (i.e. he does not raise any cattle, grow any vegetables, or bake any bread). Bob sells each burger for \$5.00. Given this information and holding everything else constant, what is Bob's contribution to GDP per burger that he produces?

- a. \$5.00 per burger
- b. \$1.75 per burger
- c. \$2.50 per burger
- d. \$3.25 per burger

$$\begin{array}{r} 1.50 \\ .50 \\ 1.25 \\ \hline 3.25 \end{array}$$

**END OF EXAM**

(This page is intentionally left blank as an extra work sheet.)

**DO NOT DETACH THIS SHEET FROM THIS EXAM BOOKLET!**