

Economics 101	Name _____
Spring 2022	TA Name _____
March 1, 2022	Discussion Section # _____
Midterm Exam 1	Student ID # _____

**VERSION 1**

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

You have 90 minutes to complete the exam, **including filling in your scantron**. The exam consists of **9 binary choice questions worth 1 point each and 30 multiple choice questions worth 3 points each for a total of 99 points**. The last point is administrative - you get it if you fill out the scantron properly. Answer all questions on the scantron sheet with a #2 pencil. There are 27 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 and first 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'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.  
    - Example:** If you are registered for section 361 and it says "VERSION 2" at the top of this page, your "Special Codes" should read 3612.
- **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.**

Zau Aitkulova <b>306</b> F 8:50 – 9:40 am Soc Sci 4322	Giselle Labrador Badia <b>301</b> TR 4:35 – 5:25 pm Soc Sci 4332	Angela Jiang <b>302</b> F 2:25 – 3:15 pm Ingraham 225
<b>310</b> F 12:05 – 12:55 pm Ingraham 222	<b>304</b> F 1:20 – 2:10 pm Soc Sci 4314	<b>303</b> F 1:20 – 2:10 pm Van Hise 399
	<b>307</b> F 9:55 – 10:45 am Van Hise 209	<b>305</b> F 11:00 – 11:50 am Soc Sci 4322
	<b>309</b> F 11:00 – 11:50 pm Van Hise 387	<b>308</b> F 9:55 – 10:45 am Sterling 2333

WORKSHEET – DO NOT REMOVE!

EXAM CONTINUES – THERE ARE 27 PAGES!

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 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 \_\_\_\_\_

### **I. Binary Choice Questions (9 questions worth 1 point each)**

1. Suppose that people in an economy know that the economy is slowing down and some people are losing their jobs. A rational decision by individuals to save more and spend less given this economic uncertainty will:

- a. Result in the economy slowing down even more due to this decision: this is the Paradox of Thrift.
- b. Result in the economy slowing down less due to this decision: this is the Paradox of Thrift.

2. Economics suggests that every decision we make involves:

- a. scarcity and trade-offs.
- b. opportunities to make us financially richer.

3. When deciding how much chocolate cake I should eat, the rational economist suggests that I only eat an additional bite of the cake if:

- a. the additional benefit from eating this bite of cake is greater than the additional cost of eating this bite of cake.
- b. the additional cost of eating this bite of cake is equal to or greater than the additional benefit of eating this bite of cake.

EXAM CONTINUES!

4. The Affordable Care Act mandated that each individual purchase health insurance. This mandate was included to:

- a. Ensure that everyone understood the government's power and right to intervene in people's lives.
- b. Ensure that there would not be an insurance death spiral.

5. You are told that the relationship between the X and Y variable can be described by the following equation:

$$X = 100 - 2Y$$

where X is the variable measured on the horizontal axis and Y is the variable measured on the vertical axis. Suppose that the X value increases by 40 units. What will be the change in the Y variable given this information and assuming that this new point is still on the original line?

- a. Y will decrease by 20 units.
- b. Y will decrease by 80 units.

6. The government implements an effective price ceiling in a market. Given this information and holding everything else constant, which of the following statements is true?

- a. The "short side" of the market with an effective price ceiling is the demand side.
- b. The "short side" of the market with an effective price ceiling is the supply side.

EXAM CONTINUES!

7. Consider an effective price ceiling in a market. What is a possible consequence of this price ceiling?

- a. When the government implements this price ceiling it will benefit consumers of this good while harming producers of this good.
- b. When the government implements this price ceiling it will benefit producers of this good while harming consumers of this good.

8. If we want to use algebra to find the market supply curve, then each firm's supply curve should be written in:

- a. Slope-intercept form.
- b. X-intercept form.

9. Suppose that the market for potatoes is initially in equilibrium. Then, suppose that there is a potato blight that destroys 20% of the potato harvest, and, at the same time, a new research study finds that consumption of potatoes has major health benefits. From this information we can conclude with certainty that:

- a. The new equilibrium quantity will be greater than the initial equilibrium quantity.
- b. The new equilibrium price will be greater than the initial equilibrium price.

EXAM CONTINUES!

## II. Multiple Choice Questions (30 questions worth 3 points each)

10. Angela, Bob, Catherine, and Dylan share one office. They are planning on getting a new humidifier for the office. Angela values the new humidifier at \$17, Bob values it at \$10, Catherine values it at \$30, Dylan values it at \$20. Catherine suggests they buy a humidifier that costs \$72, and that they divide the costs equally amongst themselves. Who will agree to this plan?

- a. Dylan and Catherine
- b. Angela and Bob
- c. Angela, Dylan, and Catherine
- d. Catherine

11. Which of the following statements are normative?

- I. Everyone should study Economics.
- II. Professor Kelly is a lecturer in ECON101.
- III. Microeconomics is more central to the study of Economics than Macroeconomics.
- IV. Math and graphs are used in ECON101.

- a. Statements III and IV are both normative.
- b. Statements II and IV are both normative.
- c. Statements I and II are both normative.
- d. Statements I and III are both normative.

12. Emily demands 4 cupcakes when the price of cupcakes is \$6, her demand for cupcakes decreases by 2 for each one dollar increase in the price of cupcakes. What is her demand in slope-intercept form?

- a.  $P = 8 - 2Q$
- b.  $P = 8 - (1/2)Q$
- c.  $P = (1/2)Q + 6$
- d.  $P = 2Q + 6$

EXAM CONTINUES!

13. April is very good at playing chess. She wants to participate in a chess championship, but she needs to train and practice a lot if she is going to do this. April currently works 25 hours a week at a job where she earns \$60 per hour. She is debating whether she should devote these hours to chess or to work. If she spends 25 hours per week training for chess, she is guaranteed to win \$10,000 after 2 weeks of chess study. Assume she spends all her available time either working or training for chess. If she decides to train for chess, what is her opportunity cost for a two week period of time?

- a. \$3,000
- b. \$11,500
- c. \$13,000
- d. \$1,500

14. Today is Tuesday. Urban Outfitters has just announced it is going to have a 20% off sale starting on Saturday and ending on Sunday. What do you think will happen to the demand for clothes in the shop today?

- a. Demand will shift to the right today.
- b. Demand will shift to the left today.
- c. Demand may shift to the left, to the right, or remain unchanged today.
- d. Demand will be unchanged today.

EXAM CONTINUES!

15. The university has just announced it will cut tuition for all students by half. Students interpret this decrease in tuition as an increase in their income. At the same time as the tuition decrease, the price of coffee beans, an important input for coffee, increases. Assume black coffee is an inferior good for students. Given this information and holding everything else constant, what will happen to the equilibrium price and quantity in the market for black coffee relative to the initial equilibrium before these changes occurred?

- a. The equilibrium quantity and price of black coffee both decrease.
- b. The equilibrium quantity of black coffee decreases and the equilibrium price of black coffee increases.
- c. The equilibrium quantity of black coffee decreases, but the change in the equilibrium price of black coffee is indeterminant.
- d. The change in the equilibrium quantity of black coffee is indeterminant, and the equilibrium price of black coffee decreases.

16. Demand for milk decreased recently in Madison. Given this information and holding everything else constant, which of the following explanations best explains this change?

- a. The population of students in Madison increased.
- b. Juice, which is a substitute for milk, has increased in price.
- c. Recent scientific research discovered that milk is more nutritious than people had previously thought.
- d. Cereal, a complement for milk, has increased in price.

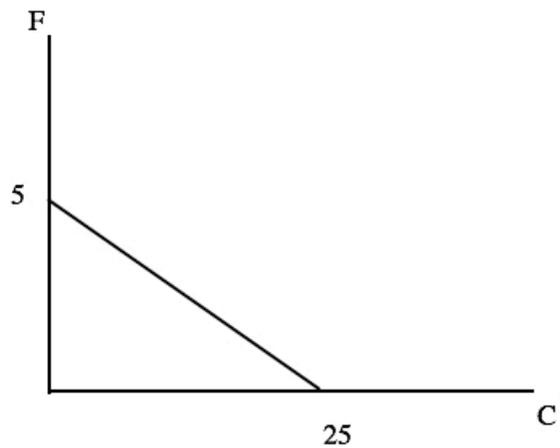
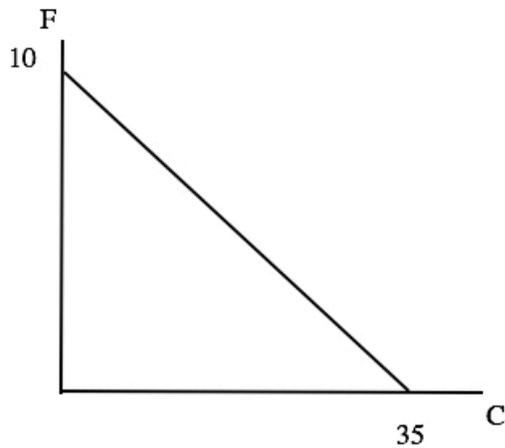
EXAM CONTINUES!

WORKSHEET – DO NOT REMOVE!

EXAM CONTINUES!

Use the information below to answer **next TWO (2)** questions.

Bob and Anne are on a stranded island and all they can do is either collect coconuts or go fishing. Their PPFs are depicted below, where F stands for fishing and C stands for coconuts.

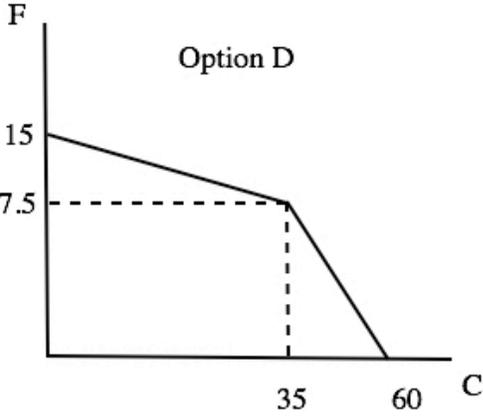
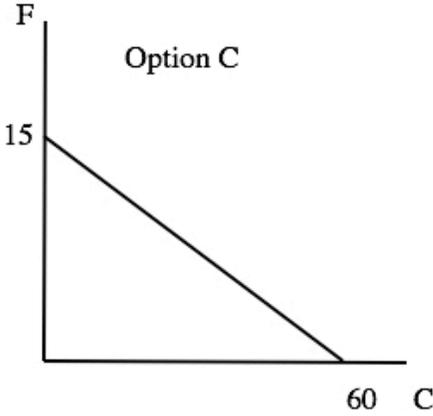
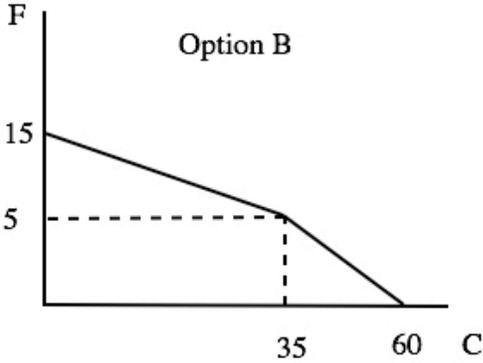
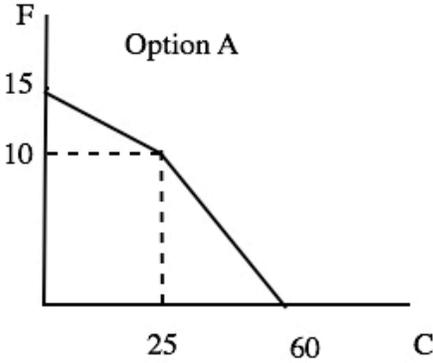


17. Which statement below is true?

- a. Bob has an absolute advantage in both activities and comparative advantage in both activities.
- b. Bob has an absolute advantage in both activities and Anne has a comparative advantage in fishing.
- c. Bob has an absolute advantage in both activities and Anne has a comparative advantage in coconut collecting.
- d. Bob has a comparative advantage in coconut collecting and Anne has a comparative advantage in fishing.

EXAM CONTINUES!

18. Choose a graph that represents Bob and Anne's joint PPF.



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

EXAM CONTINUES!

19. Marcy's production possibility frontier for pencils (P) and erasers (E) can be described by the following equation:

$$P = 24 - (1/2)E$$

Given this information and holding everything else constant, which of the following points (E, P) is **NOT** feasible.

- a. (E, P) = (24, 12)
- b. (E, P) = (20, 15)
- c. (E, P) = (8, 18)
- d. (E, P) = (6, 20.5)

20. Consider a market with three consumers: Bob, Ann, and Marco. You are given the following information about their demand curves where P is the price per unit and Q is the number of units.

$$\text{Bob's Demand Curve: } Q = 10 - 2P$$

$$\text{Ann's Demand Curve: } Q = 5 - P$$

$$\text{Marco's Demand Curve: } Q = 1 - (1/5)P$$

Given this information and holding everything else constant, which of the following statements is true?

- a. There are two kink points on the market demand curve.
- b. The market demand curve is made up of three linear segments.
- c. The market demand curve's X-intercept is equal to 16 units.
- d. All of the above answers are true.

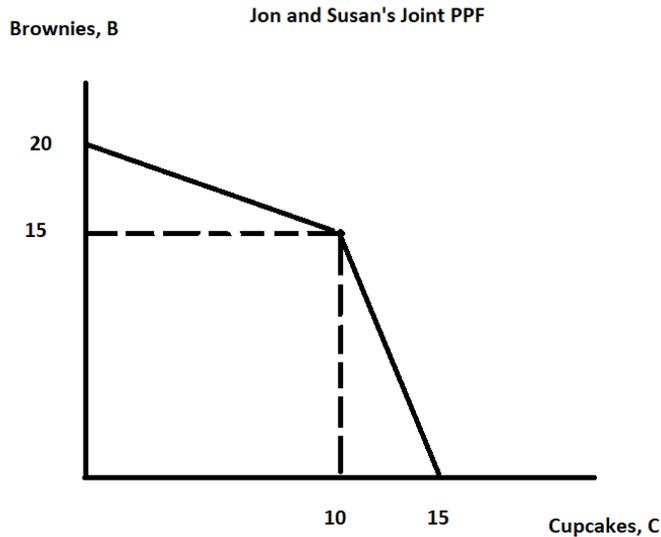
EXAM CONTINUES!

WORKSHEET – DO NOT REMOVE!

EXAM CONTINUES!

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

Consider the following joint PPF depicting Jon and Susan's production possibilities for cupcakes (C) and brownies (B). You are also told that Jon has the comparative advantage in producing Brownies.



21. Given the above information and holding everything else constant, the equation that expresses Jon's PPF can be written as:

- a.  $B = 15 - (1/3)C$
- b.  $B = 15 - 3C$
- c.  $B = 5 - (1/2)C$
- d.  $B = 5 - 2C$

22. Suppose that Jon and Susan together are producing 12 cupcakes and 9 brownies. Given this information and holding everything else constant, which of the following statements is true?

- a. Jon is producing 4 brownies while Susan produces 6 cupcakes.
- b. Susan is producing 8 cupcakes while Jon produces 4 cupcakes.
- c. Susan is producing 4 brownies and 10 cupcakes.
- d. Jon is producing 9 brownies and 2 cupcakes.

EXAM CONTINUES!

WORKSHEET – DO NOT REMOVE!

EXAM CONTINUES!

23. Which of the following is a positive economics statement?

- a. Inequality is not desirable in a healthy economy.
- b. The government ought to do more to help children in poverty.
- c. The federal reserve should stabilize long-term interest rates.
- d. A decrease in the minimum wage increases unemployment in minority communities.

24. Pamela is a farmer and produces both asparagus (A) and mangos (M). In one day, she can produce a maximum of 20 bunches of asparagus if she only produces asparagus. Moreover, the opportunity cost of producing one mango is 4 bunches of asparagus. Given this information and holding everything else constant, write the equation for Pamela's PPF.

- a.  $A = 20 - (1/4)M$
- b.  $A = 20 - 4M$
- c.  $M = 5 - 4A$
- d.  $M = 4 - (1/20)A$

25. The supply and demand in the market for housing is given by the following equations where P is the price for a unit of housing and Q is the number of units of housing:

$$\text{Demand: } P = 10 - Q$$

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

Assume that the housing market is initially in equilibrium. Which of the following policies will be effective in this market if the policy is implemented holding everything else constant?

- a. A price ceiling of \$8 per unit of housing
- b. A price ceiling of \$4 per unit of housing
- c. A price floor of \$6 per unit of housing
- d. A price floor of \$4 per unit of housing

EXAM CONTINUES!

26. Consider the agricultural market interventions discussed in class. When comparing the price support program and the price guarantee programs in agricultural markets, which of the following statements are true in general?

- a. The price support program sets a price that is greater than the market equilibrium price and results in consumers spending more on each unit of the good they consume than they would if the government did not implement this program.
- b. The price guarantee program results in consumers spending less for each unit of the good that they consume, but it also results in consumers getting less of the good since suppliers are unwilling to supply the good now that the price of the good has fallen.
- c. The price support program and the price guarantee program result in the same cost to the government, but the two programs have different distributional impacts on consumers and producers.
- d. The price support program is always less expensive for the government than a price guarantee program in the same market if the government implements the programs so that total farm revenue is the same with either program.

EXAM CONTINUES!

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

The agricultural market for corn in the country of Econland can be described by the following demand and supply curves where Q is the quantity of corn in bushels and P is the price of corn per bushel.

$$\text{Market Demand: } Q = 46 - 2P$$

$$\text{Market Supply: } Q = 4P - 8$$

27. Assume the government of Econoland implements a price support program in the market for corn with a price support price of \$12 per bushel of corn. Given this information and holding everything else constant, what is the direct cost of this program for the government?

- a. \$360
- b. \$216
- c. \$121
- d. \$200

28. Instead of a price support program in the market for corn, suppose the government of Econoland implements a price guarantee program (a subsidy) in this market where the government guarantees farmer's a price of \$12 per bushel of corn. Farmers are instructed to grow what they want given this price guarantee program price, then sell the corn and the government will pay the farmers the difference between the guaranteed price and the price they sell the corn for in the marketplace. Given this information and holding everything else constant, what is the **subsidy per unit** that the government pays with this program?

- a. \$360
- b. \$6.67 per unit of corn
- c. \$216
- d. \$9 per unit of corn

EXAM CONTINUES!

29. Claudia and Evan both produce toys for children. Both Claudia and Evan have linear production possibility frontiers in the production of robots and dolls. Claudia can produce a maximum of 4 robots per week if she only produces robots or a maximum of 3 dolls per week if she only produces dolls. Evan can produce a maximum of 6 dolls per week if he only produces dolls or a maximum of 7 robots per week if he only produces robots. Given this information and holding everything else constant, which of the following statements is true?

- a. The opportunity cost of producing one doll is smaller for Claudia than for Evan.
- b. There are no gains from trade in this example.
- c. Evan has an absolute advantage in the production of both robots and dolls.
- d. Evan has a comparative advantage in the production of robots.

EXAM CONTINUES!

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

Anna, Betty and Mitchell produce cakes and pies and they all have linear production possibility frontiers.

In four hours, Anna can produce either 2 cakes or 4 pies.

In four hours, Betty can produce either 1 cake or 1 pie.

In four hours, Mitchell can produce either 3 cakes or 4 pies.

30. Given the above information and holding everything else constant, if Anna has a total of 16 hours to devote to making cakes and pies, what is her opportunity cost for producing 4 cakes?

- a. 2 pies
- b. 4 pies
- c. 8 pies
- d. 16 pies

31. Given the above information and holding everything else constant, which of the following statements is **NOT true**?

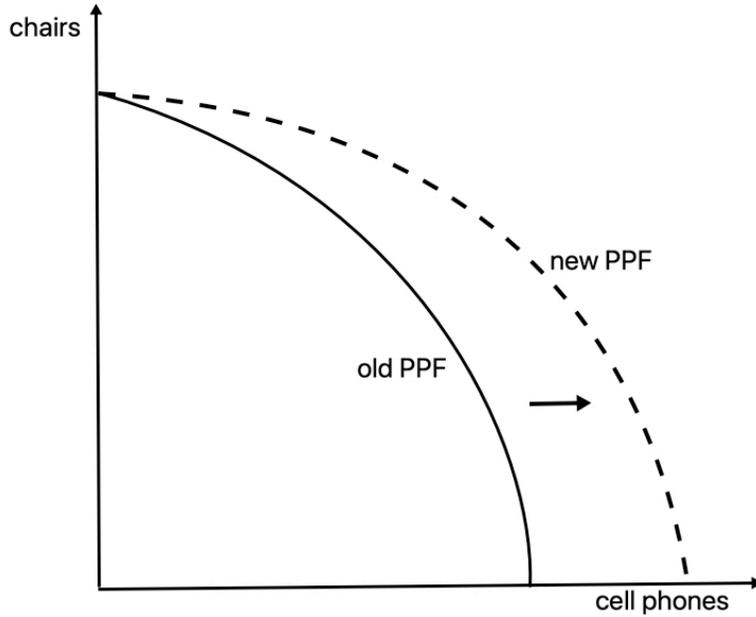
- a. When the price of 1 cake is  $\frac{1}{3}$  pie, no one is willing to sell cakes.
- b. When the price of 1 cake is  $\frac{5}{3}$  pie, 2 people are willing to sell and only one to buy.
- c. When Betty is selling cakes, then Mitchell is also selling cakes.
- d. If Mitchell is buying cakes, this means that Betty is selling cakes.

EXAM CONTINUES!

WORKSHEET – DO NOT REMOVE!

EXAM CONTINUES!

32. Country X produces cell phones and wooden chairs. The following diagram depicts two production possibility frontiers for Country X. Which of the following explanations provides the best reasoning for the shift from “old PPF” to “new PPF”?



- a. Country X trades with Country Y and through trade Country X gets better quality wood.
- b. Country X develops a new and advanced chip that expedites the assembly of cell phones.
- c. Country X implements a new policy that drastically reduces the number of licenses for carpenters while making it easier to work in tech industries.
- d. Country X experiences increased immigration from neighboring countries.

EXAM CONTINUES!

33. The demand curve for vegan burritos increases (shifts to the right) in a community. Given this information and holding everything else constant, how many of the following explanations could be an accurate explanation for this shift?

I. There is a decrease in the price of tortillas, which are a crucial input for making vegan burritos.

II. The government implements a new educational campaign that alerts the community about the health and environmental downsides of eating too much meat.

III. There is a decrease in the price of avocados, which are usually consumed with vegan burritos.

- a. None of the above statements can explain this shift in the demand for vegan burritos.
- b. Only one of these statements can explain the shift in the demand for vegan burritos.
- c. Two of these statements can explain the shift in the demand for vegan burritos.
- d. All three of these statements can explain the shift in the demand for vegan burritos.

EXAM CONTINUES!

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

The inhabitants of the city of Arrakeen, located in a desert, demand water bottles from local companies. There are two types of firms supplying water bottles: small and big firms. The supply side of the market is composed of 3 small firms and one large firm. We know the market demand and the individual supply curve of each type of firm. These curves are given as follows where  $Q$  is the quantity of the good and  $P$  is the price of the good:

Market Demand Curve:  $P = 82 - 2Q$

Individual Small Firm Supply Curve:  $P = 3Q + 3$

Individual Big Firm Supply Curve:  $P = Q + 1$

34. Given the above information and holding everything else constant, which of the following statements about the market supply is true when the price is \$2? At this price:

- a. Only the big firm will produce, and the market supply curve is given by the equation  $Q = P - 1$ .
- b. Only the small firms will produce, and the market supply curve is given by the equation  $Q = P - 3$ .
- c. Only the small firms will produce, and the market supply curve is given by the equation  $Q = (1/3)P - 1$ .
- d. No firm in this market will produce.

35. Given the above information and holding everything else constant, what is the market supply curve when prices are above \$3?

- a.  $Q = (1/2)P - 2$
- b.  $Q = (4/3)P - 2$
- c.  $Q = 2P - 4$
- d.  $Q = (1/10)P - 1$

36. Given the above information and holding everything else constant, what is the equilibrium price and the equilibrium quantity in this market?

- a.  $P = \$56$ ;  $Q = 13$  water bottles
- b.  $P = \$18$ ;  $Q = 32$  water bottles
- c.  $P = \$43$ ;  $Q = 19.5$  water bottles
- d.  $P = \$23.45$ ;  $Q = 29$  water bottles

EXAM CONTINUES!

WORKSHEET – DO NOT REMOVE!

EXAM CONTINUES!

37. When the government implements a policy like a price floor, a price ceiling, or an agricultural market program, economists know with certainty that the implementation of this policy will:

- a. Benefit consumers in the market where the intervention occurs.
- b. Benefit producers in the market where the intervention occurs.
- c. Create distributional consequences that may be positive or negative.
- d. Improve outcomes for everyone that participates in this market.

38. Which of the following scenarios will always result in an increase in the equilibrium price for the good? Assume that in each scenario there is only the described change happening.

- a. There is a decrease in tastes and preferences for the good.
- b. Bad weather destroys 20% of this year's crop in the market for corn.
- c. Consumers anticipate that the product will be put on sale next week at 50% off.
- d. Consumer incomes increase.

EXAM CONTINUES!

39. You are told that the market demand curve is composed of two linear segments with a kink point at  $(Q, P) = (10, 15)$ . You also know that the market supply curve is linear and can be described by the following equation where  $Q$  is the quantity of units of the good and  $P$  is the price of the good:

$$\text{Market Supply Curve: } Q = \frac{1}{2}P - 5$$

Given this information and holding everything else constant, on which part of the market demand curve (above the kink point or below the kink point) will the equilibrium point occur in this market?

- a. It is impossible to determine where the equilibrium point occurs in this market with the given information.
- b. The equilibrium point in this market occurs in the top part of the market demand curve.
- c. The equilibrium point in this market occurs in the bottom part of the market demand curve.
- d. The market supply and market demand curves will not intersect in this market.

END OF EXAM!