ECON 100 - Introduction to Economics

Homework 1

- Define any variables you need to answer the problems.
- You may use any material from this course (including other students). You may use Gen AI to help check your work or understanding, but you should not copy-paste solutions or answers obtained from Chat GPT/AI.
- Define any variables you need to answer the problems.
- Keep your short-answer explanations short but clear. Your goal is to convince a skeptical grader that you understand the relevant concepts well enough to answer the question you are given.
- The questions on this homework sum to 52.
- Please be sure to write down the name(s) of anyone else you worked with on this homework (either at the top or under your name). Place a star next to your name OR underline OR some way to make it easy for me to tell which homework is whose.
- Bring any and all questions to office/student hours!

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1. (2 points) What is your name?
2. (2 points) What section are you in? (Either section number or what time your class meets)

1 True/False Questions

Indicate "T"rue or "F"alse for each of the following statements or claims. If you correctly explain why a statement or claim is false, I will give you a bonus point up to a 100% on this homework.

3. (2 points) Marcie is deciding how to split her time between studying for her economics test and her government test. Her cost of studying for either class is for each minute she studies is one-minute less she can study for the other class. Her benefit is for each minute she studies, her grade in that particular class improves. She decides to study for both classes equally because that is where her total cost of studying equals her total benefit across the two classes. **Claim**: Marcie is adhering to basic economic principles as we have learned them in class.

4. (2 points) **Claim**: In our model of mutual trade using a production possibilities frontier, one party can have both an absolute and comparative advantage in producing both goods.

5. (2 points) **Claim**: Economics studies the allocation of scarce resources within a society.

6. (2 points) **Claim**: In our model of mutual trade using a production possibilities frontier, the party with the higher opportunity cost to produce a particular good should specialize in producing that good, since they have the comparative advantage in producing that good.

7. (2 points) **Claim**: In our model of mutual trade using a production possibilities frontier, the slope/shape of the PPF depends on an assumption we make about the ability of inputs to produce both goods.

2 Multiple Choice Questions

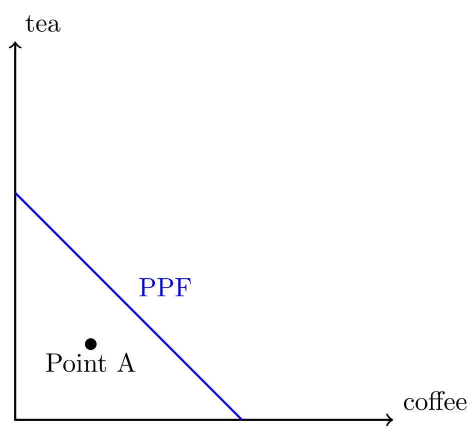
Choose the best answer for each question. There is ONLY one correct answer for each question. No explanation necessary.

8. (2 points) Which of the following represents a positive statement.
   - A. An inflation rate of 2% is good.
   - B. The Federal Reserve should increase the money supply.
   - C. The government should lower taxes.
   - D. GDP grew by 2% last year/

9. (2 points) An economist who works on figuring out the optimal real interest rate in the US most likely works in ______________, and an economist who works on whether job training programs improve a person's chances of being employed most likely works in ______________. Fill in the blanks.
   - A. microeconomics, microeconomics
   - B. microeconomics, macroeconomics
   - C. macroeconomics, microeconomics
   - D. macroeconomics, macroeconomics

10. (2 points) Bill produces both oatmeal packets and granola packets. Using all of his inputs, he can either produce both i) 20 oatmeal packets and 0 granola packets, or ii) 10 oatmeal packets and 5 granola packets. Assume that Bill's opportunity cost is constant across all possible bundles of oatmeal and granola packets.**Question**: Which below represents Bill's opportunity cost of producing granola packets.
    - A. 2 oatmeal packets.
    - B. 2 granola packets.
    - C. 0.5 oatmeal packets.
    - D. 0.5 granola packets.

11. (2 points) Consider the PPF shown below for coffee and tea. What is the correct characterization of Point A as depicted on the PPF?



    - A. Not feasible.
    - B. Feasible and inefficient.
    - C. Feasible and efficient.
    - D. Not enough information.

12. (2 points) Consider the equation $3y + 4x = 10$. With y on the y-axis and x on the x-axis, what is the slope of this line?

    A. 4

    B. -4

    C. $\frac{4}{3}$

    D. -$\frac{4}{3}$

3 Short Answer Questions

These questions all require math, diagrams, and/or written explanations. Remember you are trying to convince me you understand the why and how of what you are doing, not simply that you are able to get the numerical/graphical answer correct. Include specific concepts from class in your written explanations for full credit.

13. **Why Might Students Be Tempted to Copy Each Other's Work?** I have a policy where I strongly discourage students from dividing-up homeworks, completing specific questions, and then combining answers before submission. This policy is in response to understanding there is temptation to engage in this behavior. Let's explore why using economics! For simplicity, assume homeworks each have 15 questions, 10 non-short answer questions and 5 short answer questions.

    (a) (4 points) Let's also assume there are only two types of students. Suzies and Bills. The table belows shows possible combinations of short and non-short answer questions Suzies can complete in one hour.

Bundle	Short Answer	Non-Short Answer
A	4	4
B	0	8

    Question: Construct a diagram with the number of short answer questions on the x-axis, and the number of non-short answer questions on the y-axis. On your diagram, draw and indicate Suzie's PPF assuming constant opportunity cost.

    (b) (4 points) Suppose Bills, the other type of student, can answer 10 non-short answer questions and 0 short answer questions in one hour, or 2 short answer questions and 0 non-short answer questions in one hour. **Question**: Draw Bill's PPF on the same diagram as Suzie's.

    (c) (4 points) Which student has the comparative advantage in each type of homework question. Explain your answer using opportunity costs and other concepts from class.

    (d) (8 points) Is it possible for Bill and Suzie to each complete the homework within one hour? Why or why not? Indicate the bundle which represents a completed homework on your PPF diagram.

    (e) (2 points) Propose a trade between Bill and Suzie for completing homework questions such that both finish the homework within one hour. Assume copy-pasting of answers between Bill and Suzie does not take any time.

14. (6 points) **Graded for completion only.** Tell me about an economic problem you are particularly interested in working on/understanding/potentially solving.

    - What is the problem?
    - What makes you specifically interested in the problem?
    - Are you more interested in understanding the problem better, working to solve the problem, or both?