

Homework 4
Principles of Economics
Prof. Sarah West
30 points

1. **(8 points)** Draw a graph with an appropriate indifference curve for each of the following scenarios. Put beer (bottles) on the y-axis and pizza (slices) on the x-axis.
 - a. Sarah likes both beer and pizza, but she likes beer a lot more. Holding consumption of the other good constant, each additional beer or each additional pizza increases satisfaction less than the previous one.
 - b. Jeff only eats pizza if he can wash down each slice with one beer.
 - c. Amy is always happy to give up one beer if she gets two slices of pizza in return.
 - d. Frederick likes pizza but dislikes beer.

2. **(6 points)** *Consumer Choice.* Trudy has an income of \$400 per month. She spends her income on movies at the Grandview Theater and sandwiches at Subway. The price of a sandwich is \$4, and the price of a movie ticket is \$10.
 - a. Graph Trudy's monthly budget constraint. Assume that at the prices given above, she spends half her income on movies and half on sandwiches. Draw an indifference curve representing this consumption.
 - b. Subway announces that its sandwiches are on sale for \$2. On the graph above, draw Trudy's new budget constraint and an indifference curve that reflects the fact that for Trudy, the substitution effect dominates.
 - c. Now explain why you drew the graph in the way you did, making sure you use the utility maximizing rule to explain why Trudy responded to the price change in the way she did.

3. **(4 points)** In a world with only two goods, can both be inferior?

4. **(4 points)** If firm's marginal cost is rising, must average cost also be rising? Explain, using a graph in your explanation.

5. **(4 points)** Your cousin owns a donut shop. Her labor, ingredients, energy and other costs that depend on how many donuts she makes cost her \$3000 per month. Her revenue is \$3500 per month. Is she making a profit?

6. **(4 points)** These questions are based on material from Chapter 14, which is the reading for February 28. If you are preparing for class in the way you should, then you should be able to answer these kinds of questions before the class period in which the material is discussed:
 - a. Why is a competitive firm's average revenue equal to the price of the good it sells?
 - b. If price is less than the minimum of a firm's average total cost, should it shut down? Explain.
 - c. Why is it that competitive firms making zero economic profit still stay in business?
 - d. Which cost curve is the competitive firm's supply curve? Explain.