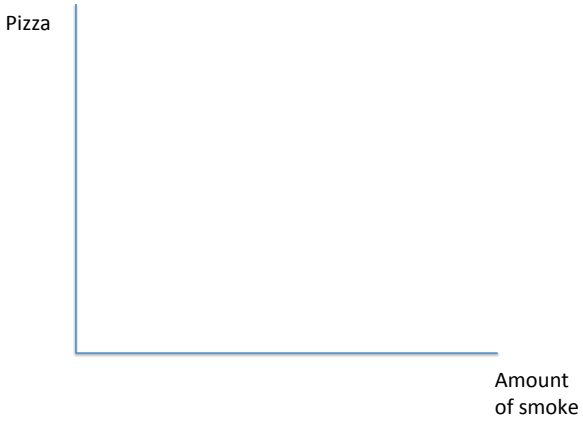
Homework 1: Consumer Theory **Economics 304**

1) Describe the transitivity property of indifference curves.

2) The slope of the indifference curve is called the marginal rate of substitution of two goods. What does the MRS tell us about consumer's preferences for the two goods? What does a steep vs. flat indifference curve suggest about consumer's preferences?

3) Consider the situation where smoking is legal inside the restaurant. Draw the indifference curve on the graph below where smoking is a 'bad' and pizza is considered a 'good.' Explain the logic for the shape of the indifference curve you drew.



4) Matt is redecorating his apartment. The amount of utility he gets from couches and chairs is listed in the table below, where each number in the table represents his utility level from each combination.

	1 chair	2 chairs	3 chairs	4 chairs
1 couch	5	6	8	20
2 couches	6	7	10	21
3 couches	9	12	16	30

a. What is the marginal utility from buying another <u>chair</u> if Matt has 2 chairs and 2 couches?
b. What is the marginal utility from buying another <u>couch</u> if Matt has 2 chairs and 2 couches?

If couches and chairs are the same price and Matt wants one more piece of furniture (when he already has 2 chairs and 2 couches) should he buy a couch or a chair? Why

5) Jim enjoys both music and fireworks.

a) His income is $240 per month. Music streaming costs $12 per month, and fireworks cost $8 per bag.

b) Suppose that a holiday bonus raises Jim's income temporarily to $360. Draw Jim's new budget constraint.

c) After Jim get's him bonus he goes to the fireworks store, only to find that the prices have increased to $10 per bag. What is his new budget constraint?

6) Suppose that doctors' visits cost $20, and the typical consumer has an income of $100. Consumers spend all of their incomes on doctors' visits and a "composite good" that costs $1 per unit (this is short-hand in economics for all other goods).

a) Draw a graph that illustrates the consumer's budget constraint, putting doctor's visits on the horizontal axis. Make sure you indicate the horizontal and vertical intercepts.

Now, suppose the local government is considering two health plans. Under plan *A,* the government will give out vouchers worth 2 free visits to the doctor. Under plan *B,* the government will give out four 50% coupons to be used at the doctor's office.

b) Draw the new budget constraint the consumer faces under plan *A*.

c) Draw the new budget constraint the consumer faces under plan *B*.

d) For whom is the choice of plan *A* or plan *B* not likely to matter — those who are quite well, or those who are quite sick? (*Hint:* Superimpose some indifference curves on your budget constraints.)

e) Which plan would someone who is generally well be likely to choose, if offered a choice?

7) Describe the constrained optimization problem for your life. Choice set, objective, constraints.