

University of Wisconsin
Economics 311: Intermediate Microeconomic Theory – Advanced Treatment
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Practice Problems with Budget Constraints and Indifference Curves.

Pretend that you are interested in consumers' preferences about Burger King double-cheeseburgers (DCs) relative to "all of the other goods" (AOGs) they purchase. You discover that there are several distinct groups of people who have differing attitudes towards DCs and AOGs. Draw an indifference map that illustrates each set of preferences described below. Note that because each set of preferences is derived from a different utility function, each indifference map should be drawn on its own diagram.

- 1a). Some people get no utility at all from DCs, they get all of their utility from AOGs.
- 1b). Some people like both DCs and AOGs but have a stronger preference for AOGs than for DCs.
- 1c). Some people like both DCs and AOGs but have a stronger preference for DCs than for AOGs.

Now consider the following scenario: you have \$100 of income that you use to purchase double-cheeseburgers from Burger King and "all other goods" (DCs and AOGs again). The regular price of a DC is \$2 and AOGs are measured in one-dollar units, so you can consider the price of AOGs to be \$1.

Draw your original budget constraint on 6 different graphs. Be sure to label the intercepts and indicate the slope. Each program described below is meant to be considered separately, in a separate graph.

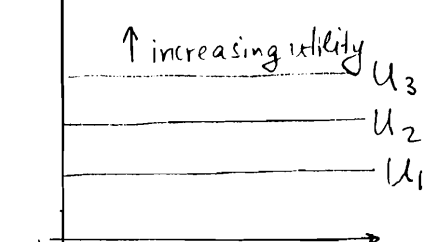
- 2). A new state tax is instituted in fast food. The tax program includes a 50c tax on DCs.
- 3). The Governor decides to subsidize food purchases in the state, including the purchase of DCs. He has two different ways to impose this subsidy, each of which will affect you differently.
 - a). The subsidy program gives you 40c for every DC that you purchase.
 - b). The subsidy program gives you an extra \$20 of income.
- 4). Burger King decides to promote the sale of its products using a variety of discount programs.
 - a). The first program discounts the price of a DC by 40c.
 - b). The second program discounts only the first 16 DCs you buy, but the discount is 50c per burger. (You pay regular price for any you buy beyond 16).
 - c). The third program rewards dedication. You get a discount of 50% on each DC you buy after the 20th one. (You pay regular price for the first 20).

Finally, consider the consumption decision under these various programs. Draw new diagrams with indifference maps to illustrate the following scenarios. (Assume that your original optimum includes a positive number of DCs.)

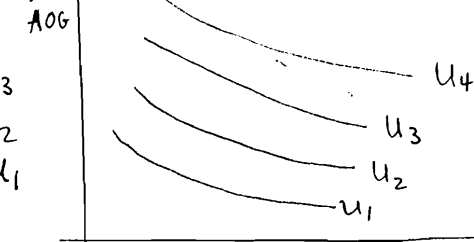
- 5a). Show that the program in 2a) will make you worse off.
- 5b). Show that both programs in 3) will make you better off.
- 5c). Show that, while both programs 4a) and 4b) will make you better off, there is a possibility that the program in 4c) will have no effect on you at all.

Practice Problems with Budget Constraints and Indifference Curves- Answers

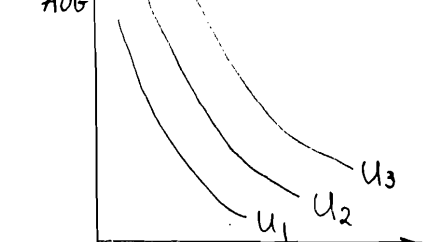
1a)



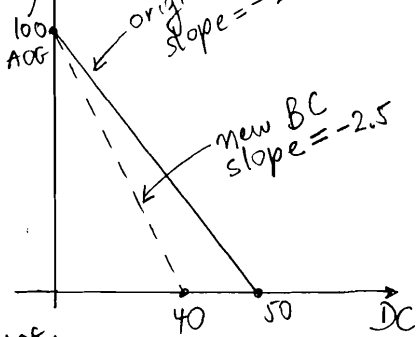
b)



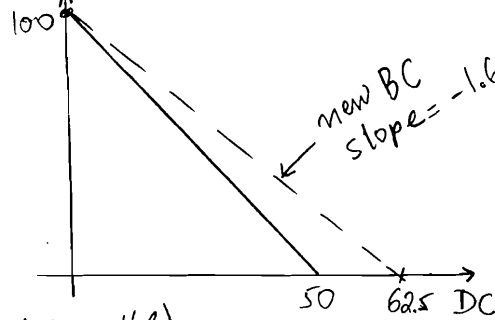
c)



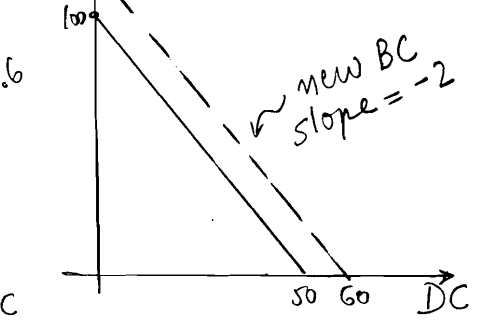
2)



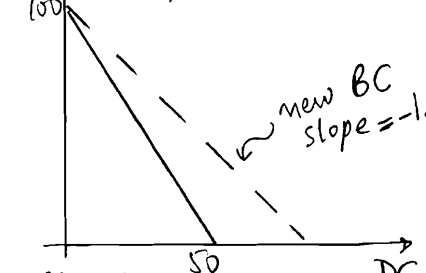
3a)



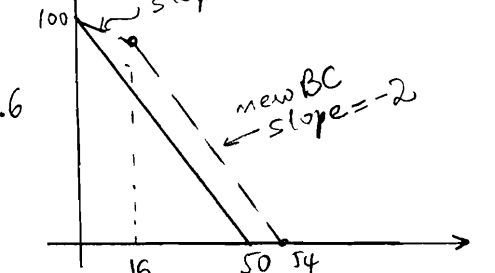
3b)



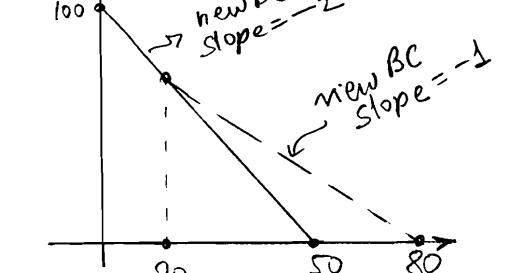
4a)



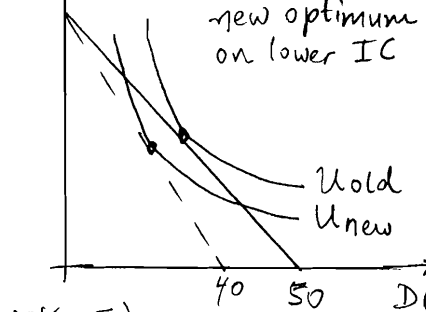
4b)



4c)



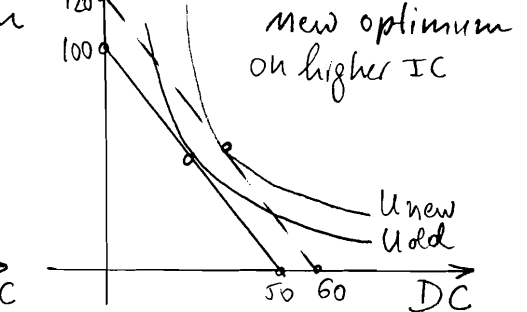
5a)



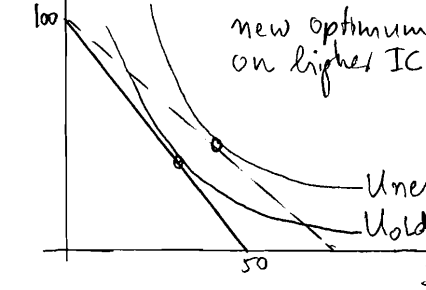
5b)



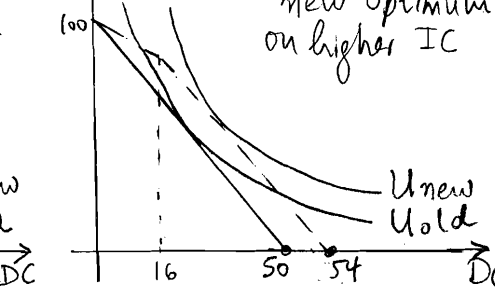
5c)



5c)



5c)



5c)

