

Some comments on question 2 of Quizz 1

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Below are some comments based on recurrent problems I have seen while marking question 2.

A)

1. Most of you forgot to draw preferences on your graph. If the question asks for both preferences and budget constraint, then you must draw both. This way, you can have an idea of where the solution might be (and earn marks).
2. While striving for accurate graphs is a good idea, some of you focused on drawing exact utility curves. This might be too time consuming for what you might benefit from it. This question is there to help you build intuition and get a general idea of the problem.
3. Identifying the slope of the budget constraint and affordable quantities on each axis is a good idea. It is quick and allows for a "reality check" of your solutions afterwards.

B)

4. Some of you did not solve this problem with an algebraic approach, but compared integers points on the budget line (comparing the bundle (3,3) with (6,2), for instance). This is not a good approach as you do not learn what the MRS condition means. In this problem, the solution happens to be with nice round numbers, but this will not generally be the case. Hence, in a general setting, some of you would miss the optimal solution.
5. Many of you did not answered the second part of the question (What is the intuitive meaning of the optimality condition?). Anything along the lines of "utilitie curves must be tangeant the budget line" or "the last dollar spent on each goods must bring the same amount of utility" was fine.

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6. The marginal rate of substitution is a positive number, defined as

$$MRS_{x,y} = \frac{MU_x}{MU_y}$$

and for optimality, this must equal the negative of the slope of the budget constraint (p_x/p_y) for interior solutions. Some of you misplaced negative signs. Some of you also inverted one of the two ratios, leading to wrong solutions.

7. Almost nobody argued why this was an interior solution while they used the above equation to solve the problem. You should give insights on why it is not a corner solution.

C)

8. Many people got confused because they got the wrong definition of the MRS (adding a negative sign in front of it). In that (wrong) paradigm, a negative function that gets closer and closer to zero as x increases is *increasing*. Conversely, if you had the correct definition of the MRS, you had a sequence of positive numbers heading towards zero (and thus, diminishing) as x increases.
9. Even if a question does not ask directly for it, you should always give some sort of explanation. In this case, the Quizz asked for "traces of your thinking". People who only wrote the correct answers got few marks.