

Name:

QUIZ 4: Econ 102, Section 2

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Please answer the following 9 questions for 50 points. Be as BRIEF as you can. You have 30 minutes.

1. (6 points) Define the following properties of preferences: complete, convex, and transitive.
2. (4 points) A substitution effect does not measure the implications of changes of what can be chosen by a household, but of the relative prices at which it can trade the different goods. True, false, discuss.
3. (8 points) Describe three ways in which there can be endogenous growth without technical change. State also what is the property that all these ways have to have in common to generate endogenous growth.

4. (8 points) Imagine that preferences of a household in the one period model with leisure are given by $u(c, l) = \log(c) + \log(l + \theta)$ where θ is a positive number. The household's budget constraint is given by $c = w(1 - l) + \pi$ (there are no taxes, but there are profits). Derive an expression for the choice of leisure. Does leisure increase or decrease when the wage goes up. If it depends on profits, say how.
5. (4 points) Define and give an example of a good that is both non-rivalrous but excludable and another example of a good that is both non-rivalrous non-excludable.
6. (4 points) Perpetual growth is not possible in an economy with both human and physical capital where investment in human capital in physical capital is in the form of goods. However, perpetual growth is possible when human capital is in the form of time. True? False? Discuss.

7. (5 points) In the context of the one period model with leisure, describe what are the implications for a household of an increase in taxes. Make sure that you describe the response in terms of income and substitution effects. Use a graph if needed.
8. (5 points) In the context of the one period model with leisure, describe what are the implications for a household of an increase in wages for a household that was working some time before the change. Make sure that you describe the response in terms of income and substitution effects. Use a graph if needed.
9. (6 points) In the context of the one period model with leisure, define a competitive equilibrium as carefully as possible and indicate the elements involved.