Review Problems From Economics 11

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1. Consumer and Demand Theory

Ms. Rockstar enjoys champagne x^1 and diamonds x^2. She has \$1,000,000 to spend, and her utility is $\log x^1 + 2\log x^2$. What is her demand for champagne? By what percent does her demand change if the price of champagne rises by 10%? If the price of diamonds rises by 10%?

2. General Equilibrium Theory

Now suppose that Ms. Rockstar has no money, but an endowment of 1000 cases of champagne and 100 diamonds. Her manager Ms. Turkeyfeathers also gets utility from champagne and diamonds, but is endowed with only 100 cases of champagne and 20 diamonds. Ms Turkeyfeathers utility is $2\log x^1 + \log x^2$. What is the competitive equilibrium price of champagne and diamonds, and how much does each consume in equilibrium?

3. Lagrange Multipliers

Mr. Bollweevil enjoys cotton x^1, wool x^2 and polyester x^3. His utility is $\sqrt{x^1} + 2\sqrt{x^2} + 3\sqrt{x^3}$, and he has I units of income. What is his demand for cotton?