Economics 314 **Spring 2013**
Daily Question #7 **February 13**

Suppose that a household lives for two periods and that its lifetime utility is given by

$$U = \frac{C_1^{1-\theta}}{1-\theta} + \frac{1}{1+\rho}\frac{C_2^{1-\theta}}{1-\theta}, \quad \rho > 0,\ \theta > 0,$$

where C_1 and C_2 are the household's consumption in periods one and two. Using total differentials, we know that infinitesimal changes in C_1 and C_2 equal to dC_1 and dC_2 will lead to a change in utility equal to

$$dU = \frac{\partial U}{\partial C_1} dC_1 + \frac{\partial U}{\partial C_2} dC_2.$$

Moving along an indifference curve, $dU = 0$. Use the above equation to find the slope $\frac{dC_2}{dC_1}$ of the indifference curve, i.e., the $\frac{dC_2}{dC_1}$ that makes $dU = 0$. Your answer should be in terms of C_1, C_2, ρ, and θ.