

Quiz Questions

- 1) Derive Sarah's labor supply function given that she has a utility function $u(c, l) = c^{1/2} + 2l$ and her income is $I = w(1 - l)$. What is the slope of her labor supply curve with respect to a change in the wage?
- 2) Suppose that the utility function of an individual is $u(x, y) = \min\{x, y\}$ and her budget constraint is $I = p_x x + p_y y$. The prices are initially $(p_x, p_y) = (1, 1)$.
 - a) Find the optimal consumption bundle graphically.
 - b) Suppose that the price of x rises to $p_x = 2$. Calculate the income effect and the substitution effect.
- 3) George views leisure as a normal good. He works at a job that pays w an hour. Use a labor-leisure analysis to compare the effects on the hours he works from a marginal tax rate on his wage, t or a lump-sum tax (a tax collected regardless of the number of hours he works), T . If the per-hour tax is used, he works 10 hours and earns $(1 - t)10w$. The government sets $T = t10w$, so that it collects the same amount of money from either tax. Which tax is likely to reduce George's hours of work more, and why? (*Hint: See Solved Problem 5.4.*)
- 4) Sally's utility function is $u(x, y) = x^{1/2} + y^{1/2}$ and her budget constraint is $I = p_x x + p_y y$. Derive the demand for x and y .
- 5) The preferences of an individual is given by the indifference curves depicted below. Use the graphical tools developed in the class to derive his demand for x and y .

