1. Derive ordinary demand for x 1 and x 2 for a consumer whose utility function is $U\left(x_{1}, x_{2}\right)=x_{1} x_{2}^{2}$.
2. Derive ordinary demand for x 1 and x 2 for a consumer whose utility function is of the following form:
$\mathrm{U}=\min \left\{\mathrm{aX}_{1}, \mathrm{bX} \mathrm{X}_{2}\right\}$
$\mathrm{U}=\mathrm{aX} \mathrm{X}_{1}+\mathrm{bX} \mathrm{X}_{2}$
3. At a boundary optimum, a consumer's indifference curve must be tangent to her budget line.
a. T/F
4. Max Gross has the utility function $U(x, y)=\max \{x, y\}$. If the price of $x$ is the same as the price of $y$, Max will buy equal amounts of $x$ and $y$.
a. T/F
5. If a consumer does not have convex preferences, then a point of tangency between her indifference curve and her budget line must be an optimal consumption point.
a. T/F
6. Clara's utility function is $U(x, y)=(x+2)(y+1)$. If her consumption of both $x$ and $y$ are doubled, then her marginal rate of substitution between $x$ and $y$ remains constant.
a. T/F
7. Charlie's utility function is $U(x, y)=x y^{2}$. His marginal rate of substitution between $x$ and $y$ does not change if the amount of both goods doubles.
a. T/F
8. Max has a utility function $U(x, y)=2 x y+1$. The prices of $x$ and $y$ are both $\$ 1$ and Max has an of \$20.
a. How much of each good will he demand?
b. A tax is placed on $x$ so that $x$ now costs Max $\$ 2$ while his income and the price of $y$ stay the same. How much of good $x$ does he now demand?
Would Max be as well off as he was before the tax if when the tax was imposed, his income rose by an amount equal to $\$ 1$ times the answer to part (b)?
