

GMU Ec306-3 Final, Fall 1999

Please show your reasoning along with your answers.

1. Charlie's indifference curves have the equation $x_B = \text{constant}/x_A$, where larger constants denote better indifference curves. Charlie strictly prefers the bundle $(x_A, x_B) = (10, 19)$ to the bundle:
 - a $(19, 10)$.
 - b $(11, 18)$.
 - c $(15, 15)$.
 - d more than one of these bundles.
 - e none of these bundles.
2. Ollie has 40 dollars, which he decides to spend on x and y . Commodity x costs \$13 per unit and commodity y costs \$11 per unit. He has the utility function $U(x, y) = 6x^2 + 4y^2$ and he can purchase fractional units of x and y .
 - a Ollie will choose only x .
 - b Ollie will choose only y .
 - c Ollie will chose some of each commodity, but more y than x .
 - d Ollie will choose some of each commodity, but more x than y .
 - e Ollie will choose equal amounts of the two commodities.
3. A large (subterranean) pool of oil lies in a remote region of Ohio. Oil companies have explored this region and know how much oil there is. They have purchased the rights to drill and extract oil when they wish to do so. Because of the extremely forbidding geography and the savagery of the natives, the companies have decided to postpone extraction until the price of oil is higher. The theory of intertemporal arbitrage predicts that the:
 - a companies are behaving irrationally.
 - b price of rights to this oil must rise at the interest rate.
 - c oil companies will not drill unless production costs fall.
 - d price of rights to this oil will stay constant until it pays to extract.
 - e None of the above.

4. The demand curve for rutabagas is a straight line with slope -3 and the supply curve is a straight line with slope 2 . Suppose that a new tax of $\$3$ per sack of rutabagas is introduced. Which of the following must certainly be true of the change in equilibrium prices and/or quantities?
- a The total number of rutabagas purchased increases.
 - b The price paid by demanders rises by the same amount as the price received by suppliers falls.
 - c The price received by suppliers falls by more than the price paid by demanders rises.
 - d The price paid by demanders rises by more than the price received by suppliers falls.
 - e The price paid by demanders rises by more than $\$3$.
5. A firm's production function is $q = 26x^{1/3}y^{2/3}$ where x and y are the amounts of factors x and y that the firm uses as inputs. If the firm is minimizing unit costs, and if the price of factor x is 6 times the price of factor y , the ratio in which the firm will use factors x and y is closest to:
- a $x/y = 0.8$
 - b $x/y = 0.5$
 - c $x/y = 0.0$
 - d $x/y = 2.40$
 - e $x/y = 12$
6. Which of the following is the best example of a public good?
- a cable television
 - b day care
 - c radio broadcasts
 - d medical care
 - e Disneyland
7. A situation is Pareto efficient if:
- a there is no way to make everyone worse off without making someone better off.
 - b aggregate profits are maximized.
 - c there is no way to make someone better off without making someone else worse off.
 - d there is some way to make everyone better off.
 - e there is no way to make anyone better off.

8. The demand for a monopolist's output is $3,000/(p+1)^2$ where p is her price. She has constant marginal costs equal to \$5 per unit. What price will she charge to maximize her profits?
- a 15
 - b 6
 - c 14
 - d 11
 - e 5
9. A firm hires two kinds of workers, alphas and betas. The population at large has equal number of alphas and betas. One can't tell a beta from an alpha by looking at her, but an alpha will produce \$3,000 worth of output per month and a beta will produce \$2,500 worth of output in a month. The firm decides to distinguish alphas from betas by making them pass an examination. For each question that they get right on the exam, alphas have to spend 1/2 hour studying and betas have to spend 1 hour. A worker will be paid \$3,000 if she gets at least 60 answers right and \$2,500 otherwise. For either type, an hour's studying is as bad as giving up \$20 income per month. This scheme leads to:
- a a separating equilibrium where alphas score 60 and betas score 0.
 - b a separating equilibrium where alphas score 100 and betas score 0.
 - c a pooling equilibrium where everybody scores 60.
 - d a pooling equilibrium where everybody scores 0.
 - e None of the above.
10. At a certain school, the demand by boys for dates with girls is $Q = 4 - 2p$, while the demand by girls for dates with boys is $Q = 3 - p$. If one sex "pays" the other dates, by paying for more of the expense of the date,
- a Boys will "pay" girls 1 per date.
 - b Boys will "pay" girls 1/3 per date.
 - c Neither side will pay the other.
 - d Girls will "pay" boys 1/3 per date.
 - e Girls will "pay" boys 1 per date.