1. Indifference curves:
   a. may sometimes intersect.
   b. are contour lines only of a linear utility function.
   c. are convex if the utility function is quasi-concave.
   d. shift when prices change.

ANSWER: c
POINTS: 1

2. For an individual who consumes only two goods, *x* and *y*, the opportunity cost of consuming one more unit of *x* in terms of how much *y* must be given up is reflected by:
   a. the individual's marginal rate of substitution.
   b. the market prices of *x* and *y*.
   c. the slope of the individual's indifference curve.
   d. none of the above.

ANSWER: b
POINTS: 1

3. If bundles of goods *A* and *B* lie on the same indifference curve, one can assume the individual:
   a. prefers bundle *A* to bundle *B*.
   b. prefers bundle *B* to bundle *A*.
   c. enjoys bundle *A* and *B* equally.
   d. bundle *A* contains the same goods as bundle *B*.

ANSWER: c
POINTS: 1

Questions 4 and 5 refer to an individual whose utility function is given by:

$U(x,y) = 4x + 2y$.

4. With this utility function, the bundle (3,2) provides the same utility as the bundle:
   a. (2, 3).
   b. (2, 4).
   c. (2, 5).
   d. (3, 3).

ANSWER: b
POINTS: 1

5. For this utility function, the *MRS:*
   a. depends on the values of *x* and *y*.
   b. is always 0.
   c. is always 2.
   d. is always 4.

ANSWER: c
POINTS: 1

6. Which of these utility functions represent the same preferences as $U(x,y) = \sqrt{xy}$?
   a. $U(x,y) = 10\sqrt{xy}$

b. $U(x,y) = xy$

c. $U(x,y) = \ln x + \ln y$

d. All of the above represent the same preferences.

ANSWER: d

POINTS: 1

7. If utility is given by $U(x,y) = \sqrt{xy}$, then the person's *MRS* at the point $x = 5$, $y = 2$ is given by:

a. 0.4.

b. 1.0.

c. 2.5.

d. 5.0.

ANSWER: a

POINTS: 1

8. If utility is given by $U(x,y) = x^2 + 2xy + y^2$, this person's indifference curves are:

a. parabolas.

b. hyperbolas.

c. concentric circles.

d. straight lines.

ANSWER: d

POINTS: 1

9. Which of the following utility functions best represents the idea that two goods, *x* and *y*, are perfect complements?

a. $U(x,y) = \sqrt{xy}$

b. $U(x,y) = x + y$

c. $U(x,y) = |x - y|$

d. $U(x,y) = \min(x,y)$

ANSWER: d

POINTS: 1

10. If an individual's utility function is quasi-concave, his or her *MRS* will:

a. diminish as *x* is substituted for *y*.

b. increase as *x* is substituted for *y*.

c. be undefined except in special cases.

d. always depend only on the ratio of *x* to *y*.

ANSWER: a

POINTS: 1

11. If utility is given by $U(x,y) = \min(x, 3y)$ then the bundle (3, 2) provides the same utility as the bundle:

a. (1, 3).

b. (2, 3).

c. (4, 1).

d. (4, 2).

ANSWER: c
POINTS: 1

12. Which of the following utility functions *would not* be consistent with the notion that *x* and *y* are both "goods" with positive marginal utilities?

a. $U(x,y) = x^2 y$

b. $U(x,y) = x + y$

c. $U(x,y) = x\sqrt{y}$

d. $U(x,y) = x/y$

ANSWER: d
POINTS: 1

Problems 13 and 14 concern the CES utility function:

$U(x,y) = \frac{x^\delta}{\delta} + \frac{y^\delta}{\delta}$ for $\delta \leq 1, \delta \neq 0$ and $U(x,y) = \ln x + \ln y$ for $\delta = 0$.

13. For this utility function, marginal utilities are:

a. negative for $\delta < 0$.

b. diminishing only for $\delta > 0$.

c. increasing for $\delta > 0$.

d. always positive.

ANSWER: d
POINTS: 1

14. For this utility function smaller values for δ imply:

a. increasingly concave indifference curves.

b. increasingly convex indifference curves.

c. indifference curves that are convex, linear, and then concave.

d. indifference curves that are concave, linear, and then convex.

ANSWER: b
POINTS: 1