CHAPTER 3:
Preferences and Utility

3.1   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

3.2   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

3.3   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

Questions 3.4 and 3.5 refer to an individual whose utility function is given by

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

3.4   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

3.5   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

3.6   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

3.7   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

3.8   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

3.9   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

3.10   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

3.11   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

3.12   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