Errata for Intermediate Microeconomics (first printing)

Page 162:

X9.19 c)

Confirm that $MRS = -\left(\frac{y}{x}\right)$**, so that** ***MRS*****(16, 1) = –0.0625;** ***MRS*****(4, 4) = –1; and** ***MRS*****(1, 16) = –16.**

Page 169:

X9.34 b)

The marginal rate of substitution, $MRS = -\left(\frac{y}{x}\right)^{\frac{1}{2}}$**.**

Page 174:

X9.39 c)

Confirm that when ***a*** **= 0.5, the consumer's indirect utility increases from 4 to 5; while when** ***a*** **= –1, indirect utility increases from 0.5 to 0.606 (approximately).**

Page 237:

X13.7 c)

Show that the firm generates zero revenue if it stops production or else if it produces $Q_1 = \frac{a}{b}$**.**

Page 256:

X14.16 c)

Show that if there is market clearing, then $p = -20 + \left[400 + \frac{M}{100F}\right]^{0.5}$**.**

Page 290:

X16.12

Consider the situation facing a consumer who chooses among consumption bundles consisting of coffee and doughnuts. The price per cup of coffee falls from £2.50 to £2.00 on the fifth cup of coffee. (Note that this means that the fifth cup of coffee is effectively free, since the lower price is offered on all five cups purchased.) The price of a doughnut remains constant at £1.20, with no quantity discount being offered. Sketch the affordability (budget) constraint for a consumer willing to spend £24.00. Discuss the difficulties that such a constraint might cause in trying to solve the standard optimization problems.

Pages 306-317:

Chapter 17

'Firm A' and 'Firm B' should be written as 'Aulds' and 'Blacks.' [The firms referred to throughout this section are the same two examples].

Page 314:

X17.17

X17.13, referred to in the question, should say X17.16.

Page 337:

X18.24 f)

Summarize the conditions required in this case for *Defect* to be a dominant strategy. Compare your answer with the conclusions of X18.23.

Page 355:

Table 19.2

Cartel		*Firm B*	
		Defect	*Cooperate*
Firm A	*Defect*	*(1, 2)*	*(5, 2)*
	Cooperate	*(1, 5)*	*(4, 4)*

Table 19.2 The cartel problem

Page 405:

X21.8 b)

Confirm that for both businesses, $VMP_K = \frac{K^{\frac{1}{2}} + L^{\frac{1}{2}}}{K^{\frac{1}{2}}}$, and the marginal rate of transformation, *MRT* = 1. Interpret this result.

Page 406:

X21.9 b)

Assume that Seth meets a utility target $u_S(b_S, c_S) = u_S^0$. Write down an expression for Richard's utility maximization problem.

X21.9 d)

Show that if the marginal rates of substitution are equal, then $\frac{c_R}{b_R} = \frac{c_S}{b_S} = \frac{c}{b}$. Using the argument developed previously, confirm that these conditions will be satisfied whenever Richard consumes a proportion α of the output of each good, and Seth a proportion $(1 - \alpha)$. [*Note*: This means that $(b_R, c_R) = \alpha(b, c)$, and $(b_S, c_S) = (1 - \alpha)(b, c)$.]

X21.9 e)

On the diagram showing the production possibility frontier, add an Edgeworth box which has its upper right-hand vertex at J'. Within the Edgeworth box, show the Pareto-efficient allocations that satisfy the conditions obtained in part (d).

X21.9 g)

Show that the condition $MRS_R = MRS_S = MRT = \frac{p_b}{p_c}$ can only be satisfied when $b = c = \frac{1}{2}\left(K^{\frac{1}{2}} + L^{\frac{1}{2}}\right)^2$. Sketch a new diagram showing the production possibility frontier; the allocation H' for which $b = c$ and the associated Edgeworth box; the Pareto set within the box; the Walrasian equilibria when (i) $\alpha = ¼$ and (ii) $\alpha = ¾$; the indifference curves passing through the equilibria; and the common tangents to the indifference curves at each equilibrium. Demonstrate that the equilibrium conditions are indeed satisfied.

<u>Page 408:</u>

X21.10
Consider the situation in X21.9 where $\alpha = ¾$. Suppose that Richard agrees with Seth to a reduction in the value of α to ½. They then share the total factor incomes equally.

<u>Page 457:</u>

X24.12

Initially, consumer L chooses consumption bundle W(l_1^0, l_2^0) . When price p_2 increases, L's demand for good 2, L_2, falls. What are the likely effects on:

<u>Page 483:</u>

X25.16 b)

Using the expression found in part (a), rewrite the marginal rate of substitution in terms of the utility, $u = u_0$ and the current consumption, c_0.

<u>Page 526:</u>

X27.9

For a person with utility, $U : U(B, C) = B^{0.5}C^{0.5}$, where utility is derived from consumption bundle, (B, C), and where choice is defined by the affordability constraint $B + C = 20$, and the payoff constraint U(B, C) ≥ 8, sketch a diagram indicating the set of acceptable combinations.

Page 537:

X27.24

Consider the following situations:

- C: L_{C1} = (4,000, 0; 0.8), L_{C2} = (3,000; 1); and D: L_{D1} = (4,000, 0; 0.2), L_{D2} = (3,000, 0; 0.25).
- –C: L_{-C1} = (–4,000, 0; 0.8), L_{-C2} = (–3,000; 1); and –D: L_{-D1} = (–4,000, 0; 0.2), L_{-D2} = (–3,000, 0; 0.25). [*Note:* Here the lotteries necessarily offer losses.]
- E: L_{E1} = (6,000, 0; 0.45), L_{E2} = (3,000, 0; 0.9); and F: L_{F1} = (6,000, 0; 0.002), L_{F2} = (3,000, 0; 0.001).
- –E: L_{-E1} = (–6,000, 0; 0.45), L_{-E2} = (–3,000, 0; 0.9); and –F: L_{-F1} = (–6,000, 0; 0.002), L_{-F2} = (–3,000, 0; 0.001).

Page 558:

X28.15 d)

Suppose that all goods for which $q \leq 1.5$ are brought to the market. Show that *WTP* = 11,250, so that goods for which $q > 1.125$ remain unsold.

Page 570:

X29.3

This model has frequently been related to competition between political parties in an election. Suppose that there are two political parties, *K* and *L*, and that it is possible to locate their electoral platforms, *k* and *l*, on a line between 0 (the most left-wing position) and 1 (the most right-wing position). We assume that voters' preferred positions, $x \sim U[0, 1]$, and that they will vote for the party closer to their position.

a) Confirm that if $k = 0.5$, then the best reply $l^*(0.5) = 0.5$; and that if $k < 0.5$, then $l^*(k)$: $k < l^* < 1 - k^*$.

b) Sketch a diagram showing these best replies.

c) Confirm that $(k, l) = (0.5, 0.5)$ is the only Nash equilibrium in pure strategies.

Page 575:

X29.11 b)

By partially differentiating Expression 29.20 with respect to location, *a*, confirm that:

$$\frac{\partial R_A^*}{\partial a} = -\frac{1}{18}(3 - b + a)(1 + b + 3a) < 0 \qquad [29.21]$$

Page 594:

X30.4 a)

Obtain expressions for Erica's best replies for conjectured bids, b_F^e: (i) b_F^e < 12,000; (ii) 12,000 ≤ b_F^e < 18,000; (iii) b_F^e = 18,000; and (iv) b_F^e > 18,000.

<u>Page 607:</u>

X30.26 c)

the expected payment is *P: *P**(*v**) =** $\frac{\int_{10,000}^{v^*} \frac{x}{10,000} dx}{\int_{10,000}^{v^*} \frac{dx}{10,000}} = \frac{1}{2}\left(v^* + 10,000\right)$