

# Errata for Simon *et al.* (1994)

Participants of Mathematics for Economics Classes

2017년 4월 11일

## 1 p.13

- $f_2(x) - x^7$  in caption for figure 2.2 should be  $f_2(x) = -x^7$  (2017sp 백지연)

## 2 p.16

$y = (x - 1)/(x^3 + 3x + 2)$  is just a typo. This equation should be

$$y = \frac{x - 1}{x^2 + 3x + 2}$$

## 3 p.49

- 6th line:  $5x + 6$  should be  $5x - 6$  (2016f 송영석)

## 4 p.57

In example 3.6,

$$f(20) = 4500$$

(2017sp 백지연)

## 5 p.67

- Figure 3.20: y intercept is  $a$  (not  $b$ ) (2016sp 이준현)

## 6 p.71

- In the Equation (2) of Example 4.2,  $P(L) = \Pi(f(L))$  (2016f 송영석)

## 7 p.177

- The last equation

$$\mathbf{x} = (I - A)^{-1}$$

should be

$$\mathbf{x} = (I - A)^{-1}\mathbf{c}$$

(2016f 배근태)

## 8 p.192: Theorem 9.2

- Theorem 9.2 should be modified:

Let  $A$  be an  $n \times n$  matrix and let  $R$  be its row echelon form by only using  $ERO_1, ERO_2$ . Then:

$$\det A = \pm \det R$$

If no row interchanges (*i.e.*,  $ERO_1$ ) and  $ERO_3$  are used to compute  $R$  from  $A$ , (or equivalently, if only  $ERO_2$  are used,) then  $\det A = \det R$

Proof sketch:  $\det(EM_1(R_i \leftrightarrow R_j)) = -1$ ,  $\det(EM_2(R_i \leftarrow R_i + kR_j)) = 1$ ,  $\det(EM_3(R_i \leftarrow kR_i)) = k$  and use Theorem 9.5(b)

## 9 p.195

- In example 9.4, “Example 7.1”  $\Rightarrow$  “Exercise 7.2(b)” (2017sp 백지연)

## 10 p.275

- $q_1$  should be  $q_2$  (2016sp 이준현)

$$\mathbf{q} = (q_1, q_2) = (f_1(x_1, x_2, x_3), f_2(x_1, x_2, x_3)) \equiv F(x_1, x_2, x_3)$$

## 11 p.321

The first equation should be:

$$\begin{pmatrix} \frac{\partial F}{\partial x_1}(\mathbf{x}^*) \\ \vdots \\ \frac{\partial F}{\partial x_n}(\mathbf{x}^*) \end{pmatrix}$$

## 12 p.327

In theorem 14.4,

$$H = F \circ A : \mathbb{R}^s \rightarrow \mathbb{R}^m$$

(2016su 박준현)

## 13 p.337

In Figure 15.2, two axis should be  $x, y$ , not  $x_1, x_2$  (2016su 이가영)

## 14 p.342

In Theorem 15.2,

Then, there is a  $C^1$  function  $y = y(x_1, \dots, x_k)$  defined on an open ball  $B$  about ...

(2016su 박준후)

## 15 p.349

In Example 15.12, .. is perpendicular (or normal) to the plane

$$Ax + By + Cz = D$$

(2016su 이가영)

## 16 p.400

(In Theorem 17.3) Let  $F : U \rightarrow \mathbb{R}^1$  be a  $C^2$  function whose domain is an open set  $U$  in  $\mathbb{R}^n$ . (2016su 이은지)

## 17 p.455

In Equation 11,

$$f(x^*(a); a) = f(a; a) = \dots$$

## 18 p.458

- $D^2$  should be: (2016sp 이준현)

$$D^2 f(\mathbf{x}^*) = \begin{pmatrix} \frac{\partial^2 f}{\partial x_1^2} & \cdots & \frac{\partial^2 f}{\partial x_n \partial x_1} \\ \vdots & \ddots & \vdots \\ \frac{\partial^2 f}{\partial x_1 \partial x_n} & \cdots & \frac{\partial^2 f}{\partial x_n^2} \end{pmatrix}$$