

## Corrections to Calculus Essential For Statistics

This file was last updated June 16, 2013. If you find errors in the book not listed here or if you wish to offer comments on the book, send them by email to trchoi "at" korea.ac.kr.

- P.13, In the proof of Theorem 1.2.6, "For (4)" should be "For (5)".
- P.20, in the proof of (3) and (4), "Also for  $-\pi/2 < x < 0$ " should be  $0 < x < \pi/2$ .
- P.23, Example 1.3.7, Figure 1.3.7 should be Figure 1.4.
- P.42, Theorem 2.1.2 (2),  $(f + g)'(c)$  should be  $(f \pm g)'(c)$ .
- P.49, Figure 2.4, RHS graph,  $y = f(x)$  should be  $y = f^{-1}(x)$ .
- P.49, Example 2.1.12 (4),  $-\frac{\pi}{2} \leq x \leq \frac{\pi}{2}$  should be  $-\frac{\pi}{2} < x < \frac{\pi}{2}$ .
- P.50, Example 2.1.13 (1),  $\frac{m}{n} \times x^{m-1} \times x^{\frac{m}{n}(n-1)}$  should be  $\frac{m}{n} \times x^{m-1} \times x^{-\frac{m}{n}(n-1)}$ .
- P. 56, Remark 2.2.1,  $\frac{\sin x - 1}{x}$  should be  $\frac{\sin x}{x}$ .
- P.57, Figure 2.6, the equation for quadratic approximation should be  $y = 1 + x - x^2$ .
- P.58, In the proof of Theorem 2.2.1, "at  $c$  exists" should be "exists".
- P.60, Figure 2.8, in the plot (RHS), the points  $a, b, c$  in  $X$  axis should be  $a, c, b$ .
- P.66, Example 2.2.10 (3), At  $x = -2$ ,  $f(x) = -11$  should be  $f(x) = 11$ , and at  $x = 2$ ,  $f(x) = 21$  should be  $f(x) = -22$ . which is a local minimum.
- P.67, Remark 2.2.10, "as shown in Figure 2.11" should be Figure 2.12.
- P.75, In #20,  $x > 0$  and  $y > 0$  should be included.
- P.76, In #27 (d),  $a > 2c$  should be  $a > 2b$ .
- P.81, "a trapezoid,  $\frac{a+b}{2} \times (a - b) = \frac{b^2 - a^2}{2}$ " should be  $\frac{a+b}{2} \times (b - a)$ .
- P.82, in the first line, (4)  $\int_a^b f(x)dx$  should be  $\int_0^1 f(x)dx$ .
- P.85, In the proof of **Part I**,  $\int_a^{x+h} f(t)dt - \int_a^x f(t)dt$  should be  $\int_a^{x+h} f(t)dt - \int_a^x f(t)dt$ .
- P.89, Example 3.2.3,  $1 + \log \sqrt{2}$  should be  $\log \sqrt{2}$ .

- P.90, Example 3.2.6,

$$\int \sin x(1 - \cos^2 x) \cos^2 x dx = \int (1 - u^2)u^2(-u)du$$

should be

$$\int \sin x(1 - \cos^2 x) \cos^2 x dx = \int -(1 - u^2)u^2 du$$

- P.96, Example 3.3.2,

$$e^x \leq e^{x^2}, \quad \text{for } p > 1,$$

should be

$$e^x \leq e^{x^2}$$

- P. 119, Theorem 4.1.7,

$$\sum_{n=1}^{\infty} (-1)^{n+1} a_n = a_1 - a_2 + a_3 - a_4 + \dots$$

should be

$$\sum_{n=1}^{\infty} (-1)^{n+1} a_n = a_1 - a_2 + a_3 - a_4 + \dots$$

- P. 126, Remark 4.3.3 (3),  $|f^{(n)}(c)| \leq M$  should be  $|f^{(n)}(c)|$ .

- P. 129, Example 4.3.11,

$$\sin x - \tan x = \frac{x^3}{2} - \frac{x^5}{8} - \dots$$

should be

$$\sin x - \tan x = -\frac{x^3}{2} - \frac{x^5}{8} - \dots$$

- P. 140, Example 5.1.5, 1)  $x = y$  or  $x = t, x = t$  should be  $x = y$  or  $x = t, y = t$ .
- P. 140, Example 5.1.5, 2)  $x = -y$  or  $x = t, x = -t$  should be  $x = -y$  or  $x = t, y = -t$ .
- P. 150, Example 5.3.2, “(Continued from Example 5.2.7)” should be (Continued from Example 5.3.1).
- P. 150, Example 5.3.3.,  $f_x(x, y) = 2x - y$  should be  $f_x(x, y) = 2x - cy$ .
- P. 153, Remark 5.3.2 (3), “...in Therefore 5.3.1.” should be “...in Theorem 5.3.1”.
- P. 153, Example 5.3.6,  $\det(\mathbf{H}_{0,0}) > 0$  should be  $\det(\mathbf{H}_{0,0}) < 0$ .
- P. 123, Example 4.2.5,  $\int_0^x \frac{1}{1+t} dx$  should be  $\int_0^x \frac{1}{1+t} dt$ .
- P. 169, Example 6.4.1,  $G : 0 \leq u \leq 12$  should be  $G : 0 \leq u \leq 2$ .
- P. 171, Example 6.4.3,  $t = s - y$  should be  $t = x - y$ .