

**Corrections and Clarifications to  
Basic Real Analysis, Digital Second Edition**

Page 2, line –16. Change “subtraction” to “negative”.

Page 2, line –15. Delete “or difference”.

Page 2, line –14. Insert after “respective cuts” the clause  
“, and the negative of a cut  $r$  is the set of all rationals  $q$  such that there exists a rational  $q' > 0$  with  $-q - q'$  not in  $r$ ”.

Page 3, line 7. Change “Then  $-x$  is” to “Then  $-\sup_{x \in -E} x$  is”.

Page 8, proof of (c), line 2. Change “choose  $N \geq n_{l-1}$ ” to “choose  $N > n_{l-1}$ ”.

Page 8, proof of (c), line 3. Change “choose  $n_l > n_{l-1}$ ” to “choose  $n_l \geq N$ ”.

Page 8, line –1. Change “finitely many  $a$ ” to “finitely many  $n$ ”.

Page 11, proof of Theorem 1.10, line –2. Change “ $\delta_{x_{n_k}} \geq \frac{1}{2}\delta_{x'}(\frac{\epsilon}{2})$ ” to  
“ $\delta_{x_{n_k}}(\epsilon) \geq \frac{1}{2}\delta_{x'}(\frac{\epsilon}{2})$ ”.

Page 22, line –10. Change “Choose” to “Arguing by contradiction, choose”.

Page 22, line –9. Change “. Then” to “, and then”.

Page 22, line –8. Change “ $\sup_n K_n$  in  $\mathbb{R}^*$ ” to “ $\sup_n K_n = +\infty$  in  $\mathbb{R}^*$ ”.

Page 22, line –1. Change “ $1 + M_{x_0}$  is a uniform bound for the functions  $f_n$ ” to  
“ $1 + M_{x_0}$  is a (finite) uniform bound for the functions  $f_n$ , contradiction”.

Page 23, line –5 of proof of (a). To simplify the notation, change “ $\delta'/2$ ” to “ $\delta'$ ”  
in two places.

Page 24, line 6 of EXAMPLE. Change “ $x$  is in the closed interval  $[a, b]$  and  $t$  is in  
the open interval  $(a, b)$ ” to “ $x$  and  $t$  are distinct members of the closed interval  
 $[a, b]$ ”.

Page 30, lines 2 and 3 of REMARKS. For easier reading, change “ $\int_b^a f dx = -\int_a^b f dx$   
when  $b < a$ ” to “ $\int_a^b f dx = -\int_b^a f dx$  when  $a > b$ ”.

Page 30, proof of Lemma 1.27, lines 3 and 4. Change “the larger of the numbers of  
times  $c$  occurs in  $P_1$  and  $P_2$ ” to “one less than the sum of the number of times  
that  $c$  occurs in  $P_1$  and the number of times that  $c$  occurs in  $P_2$ ”.

Page 35, lines 2 to 4. Delete the sentence “It follows . . . say by  $M$ .”

Page 35, line 4. Change “ $|f(x)| \leq M$ ” to “ $|f(x)| \leq M_N + 1$ ”.

Page 39, proof of Theorem 1.35, line 5. Change “types” to “kinds” for consistency  
of terminology.

Page 40, line 11. Change “ $\epsilon$ ” to “ $3\epsilon$ ” in the middle, and change “ $3\epsilon$ ” to “ $4\epsilon$ ”  
at the right end.

Page 40, line 13. Change “ $3\epsilon$ ” to “ $4\epsilon$ ”.

Page 40, line 15. Change “ $3\epsilon$ ” to “ $4\epsilon$ ” twice.

Page 40, line 16. Change “ $3\epsilon$ ” to “ $4\epsilon$ ”.

Page 40, first line of last display. Change “ $|U(P, f) - \overline{\int_a^b} f dx|$ ” to “ $|\overline{\int_a^b} f dx - U(P, f)|$ ” for easier reading.

Page 41, line –3. Change “ $\max\{\operatorname{Re} w, \operatorname{Im} w\}$ ” to “ $\max\{|\operatorname{Re} w|, |\operatorname{Im} w|\}$ ” on both sides of the inequality.

Page 45, lines 12–13. Change “see examples both where the limit is identically 0 and where it is” to “see convergent examples where this limit is identically 0 and where this limit is”.

Page 45, line –5. Change “ $\sum_{n=0}^{\infty} c_n z^n$ ” to “ $\sum_{n=0}^{\infty} |c_n z^n|$ ”.

Page 46, line –5. Change “of  $f$ ” to “of  $f$  about  $x = a$ ”.

Page 48, line –5. Change “ $\epsilon G(z) + \epsilon F(z)$ ” to “ $\epsilon F(z) + \epsilon G(z)$ ” for parallelism with the previous line.

Page 50, just before Corollary 1.43. Insert a one-sentence paragraph saying, “With Corollary 1.42 in place, we define  $a^z = e^{z \log a}$  for  $a > 0$  and  $z \in \mathbb{C}$ .”

Page 51, line –8. Change “ $[0, 2\pi)$ ” to “ $[0, 2\pi)$  and  $x_1 \geq x_2$ ”.

Page 51, lines –7 and –6. Change “ $(-2\pi, 2\pi)$ ” to “ $[0, 2\pi)$ ”.

Page 58, line –17. Change “ $|\sigma_k - s| \leq \epsilon^2$ ” to “ $|\sigma_k - s| < \epsilon^2$ ”.

Page 60, lines –12 and –10. Change “ $\delta \leq x \leq 1$ ” to “ $\delta \leq |x| \leq 1$ ”.

Page 61, line 1. Change “ $Q(cx)$ ” to “ $Q(cx)$  on  $[0, 1]$ ”.

Page 86, line –2 of (2). Change “the Hermitian inner product” to “the real part of the Hermitian inner product”.

Page 113, line 5 of the proof of Theorem 2.42. Change “Choosing  $R = R_0$ ” to “Choosing  $R_0 \geq R$ ”.

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