ERRATA FOR THE BOOK
“THE HOW AND WHY OF ONE VARIABLE CALCULUS”,
BY AMOL SASANE,
WILEY, 2015

Page ix, line 2:
Replace
"Who is this book \underline{is} for?"
by
"Who is this book for?" .

Page 115, line 3 in Example 3.18:
Replace
"We claim that \( \lim_{x \to 0} f(x) = 2 \)"
by
"We claim that \( \lim_{x \to 1} f(x) = 2 \) .

Page 117, first line in the proof of Theorem 3.15:
Replace
"As an example, let us prove (2)"
by
"As an example, let us prove (1) .

Page 123, line 6 in Exercise 3.51:
Replace
"\( \frac{A}{(s - \alpha)^k} \)"
by
"\( \frac{A}{(x - \alpha)^k} \) .

Page 147, Definition 4.3, line 3 in item (2):
Replace
"\( \lim_{x \to b} \frac{f(x) - f(a)}{x - a} = f'_-(a) \)"
by
"\( \lim_{x \to b} \frac{f(x) - f(b)}{x - b} = f'_-(b) \) .
Page 168, line 6:
Replace

\[ p(x) := f(a) + \frac{f'(a)}{1!}(x - a) + \cdots + \frac{f^{(d)}(a)}{d!}(x - a)^d, \quad x \in \mathbb{R} \]

by

\[ p(x) := f(a) + \frac{f'(a)}{1!}(x - a) + \cdots + \frac{f^{(d)}(a)}{d!}(x - a)^d, \quad x \in \mathbb{R} \].

Page 180, last line in Theorem 4.16:
Replace

\[ \text{then } \lim_{x \to \infty} \frac{f(x)}{g(x)} = \ell' \]

by

\[ \text{then } \lim_{x \to a} \frac{f(x)}{g(x)} = \ell' \].

Page 181, last line in the proof of Theorem 4.16:
Replace

\[ \text{Hence } \lim_{x \to \infty} \frac{f(x)}{g(x)} = \ell' \]

by

\[ \text{Hence } \lim_{x \to a} \frac{f(x)}{g(x)} = \ell' \].

Page 191, line 2:
Replace

\[ m_k := \sup_{x \in \left[ \frac{k}{n}, \frac{k+1}{n} \right]} f(x) = \frac{k^2}{n^2} \]

by

\[ m_k := \inf_{x \in \left[ \frac{k}{n}, \frac{k+1}{n} \right]} f(x) = \frac{k^2}{n^2} \].

Page 203, line 5 (i.e., the line just after the word "Thus"): Replace

\[ \epsilon > \overline{S}(f, P_\epsilon) - \underline{S}(P, \epsilon) \]

by

\[ \epsilon > \overline{S}(f, P_\epsilon) - \underline{S}(f, P_\epsilon) \].

Page 213, line 13:
Replace

\[ \leq \overline{S}(|f(\cdot) - f(c)|, \{c, x\}) \]

by

\[ \leq \frac{1}{|x - c|} \cdot \overline{S}(|f(\cdot) - f(c)|, \{c, x\}) \].
Page 235, line 2:
Replace
\[ \lim_{y \to \infty} \int_0^\infty \frac{1}{1 + x^2} \, dx \]
by
\[ \lim_{y \to \infty} \int_0^y \frac{1}{1 + x^2} \, dx \].

Page 238, labeling in the rightmost figure at the bottom of the page:
Replace
\[ y^{r+1} \text{ when } r + 1 > 0 \]
by
\[ y^{r+1} \text{ when } r + 1 < 0 \].

Page 325, item (l) in the middle of the page:
Replace
“(l) if \( L > 0 \), then \( \sum_{n=0}^{\infty} c_n x^n \) is absolutely convergent for all \( x \in (-L, L) \), and”
by
“(l) if \( L > 0 \), then \( \sum_{n=0}^{\infty} c_n x^n \) is absolutely convergent for all \( x \in (-\frac{1}{L}, \frac{1}{L}) \), and”. 
Page 419, Solution to Exercise 4.70, line 2 in item (4):
Replace
“(Or because \(f''\) is strictly increasing in a neighbourhood of 0 ...)” by
“(Or because \(f''\) is strictly decreasing in a neighbourhood of 0 ...).”

Page 425, line 4:
Replace
“Let \(P := P_{[a,c-\delta]} \cup \{c-\delta, c+\delta\} \cup P_{[a,c-\delta]}\)” by
“Let \(P := P_{[a,c-\delta]} \cup \{c-\delta, c+\delta\} \cup P_{[c+\delta,b]}\).”

Page 452, caption for Figure 7:
Replace
“**Figure 7.** Graphs of \(e^x, -e^{-x}\) on the left, and the graph of \(cosh\) on the right” by
“**Figure 7.** Graphs of \(e^x, -e^{-x}\) on the left, and the graph of \(sinh\) on the right”.

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