Additions to Second Edition Errata and Comments

May 15, 2002

We again thank Dick Palas for his many contributions.

Page 18  First line: “in this section” should be “in this section and in Appendix A.1.”

Page 416  The statement that an outcome with probability 0 will not occur may seem to contradict the statement, in the subsequent discussion of infinite, continuous sample spaces, that in such a setting “each individual outcome has probability 0.” There is actually no contradiction. When a sample space is infinite, an individual outcome cannot occur because it is physically meaningless. We can think of spinning a bottle so that it ends up at exactly angle $\pi/2$, but we could never measure such a result. So, although it may seem obvious that each time we spin the bottle it lands on some angle, we really should think of it as landing within some measurable range of angles. It may seem peculiar that an infinite number of outcomes each with probably 0 can add up to something positive (in this case, $2\pi$), but it is the same as the more familiar notion that a line has length, while the points that compose it have length 0.

Page 418  Line immediately above Equation 4.2.10: $\int_0^\pi \sin \theta \, d\theta = 2$. (It does not equal $\pi$.)

Page 419  Margin note, line 4: “to 20 feet,” not “to20 feet.”

Page 420  Line 8: there is an extra period after “data.”

Page 431  We are not consistent in our use of notation for graphs. In Definition 3.1.1 and on this page we use $\Gamma(f)$, but on page 433 we use $\Gamma_f$ and on page 778 we use $\text{gr}(f)$.

Page 436  First line of second paragraph: “in Definition measuredef” should be “in Definition 4.4.1.” (This happened because we omitted the backslash that should have been in front. All numbered equations, theorems, propositions, figures, etc., have their own names; they are listed in a separate file that automatically assigns a number to each, according to its position. That way, when we reorganize material, changing numbers, references elsewhere in the book are automatically updated. At least we left the backslash off an item with a straightforward name; one equation for the sequel book now has the name “horrideq.”)

Page 436  In Definition 4.4.1 (and in other definitions in the text), “if and only if” is not necessary. Mathematical definitions (unlike definitions in ordinary language) are always unambiguous. However, there are other ways to define measure 0; if one used a different definition, the statement of Definition 4.4.1 would still be true, but it would be a proposition, requiring proof, and the “if and only if” would be needed.

Page 441  We should perhaps have reminded readers that $\exists$ means “there exist.” The symbol was used in Section 0.2.
In Definition 4.7.4 we use “diam” for “diameter,” but we don’t define it until page 487, just after Equation 4.9.9.

The last margin note should be on page 476.

First line after Definition 4.8.19: one too many “is.”

Hint for Exercise 4.8.7: This hint is not actually used in the solution. Using the hint, one could write the following for part (a):

$$\det |\tilde{a}_1, \ldots, \tilde{0}, \ldots, \tilde{a}_n| = \det |\tilde{a}_1, \ldots, 2\tilde{0}, \ldots, \tilde{a}_n| = 2\det |\tilde{a}_1, \ldots, \tilde{0}, \ldots, \tilde{a}_n|,$$

which implies that the determinant must be 0.

Last line of first paragraph: “volume of the parallelepiped,” not area.

Bottom margin note: we mean to write Exercise 4.10.4, not 4.5.19.

Caption: “first good fortune,” not “first good fortunate.”

First line after Equation 4.11.27: “at one point,” not “at one points.”

We should have mentioned that Theorems 4.11.19 and 4.11.20 are proved in Appendix A.21.

Margin note: “not absolutely convergent,” not “not absolutely convergence.”

Exercise 6.6.8: The last sentence should be “Find a basis ... at a point of \(\partial X\) ...,” not “at a point of \(\partial M\).”

“Exercise A21.2” should be “Exercise A21.5.”

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