

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, 2π), 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 π .)

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 Γ_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.

Page 468 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.

Page 475 The last margin note should be on page 476.

Page 481 First line after Definition 4.8.19: one too many “is.”

Page 484 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):

$$\det |\vec{a}_1, \dots, \vec{0}, \dots, \vec{a}_n| = \det |\vec{a}_1, \dots, 2\vec{0}, \dots, \vec{a}_n| = 2 \det |\vec{a}_1, \dots, \vec{0}, \dots, \vec{a}_n|,$$

which implies that the determinant must be 0.

Page 485 Last line of first paragraph: “volume of the parallelepiped,” not area.

Page 502 Bottom margin note: we mean to write Exercise 4.10.4, not 4.5.19.

Page 508 Caption: “first good fortune,” not “first good fortunate.”

Page 511 First line after Equation 4.11.27: “at one point,” not “at one points.”

Page 516 We should have mentioned that Theorems 4.11.19 and 4.11.20 are proved in Appendix A.21.

Page 522 Margin note: “not absolutely convergent,” not “not absolutely convergence.”

Page 627 Exercise 6.6.8: The last sentence should be “Find a basis ... at a point of ∂X ...,” not “at a point of ∂M .”

Page 755 “Exercise A21.2” should be “Exercise A21.5.”

Page 759 “Exercise A21.2” should be “Exercise A21.5.”

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