Errata to S. J. Colley, Vector Calculus, 4/E, first printing
February 20, 2023

p. 17, Figure 1.32. In the figure, replace “2π” and “4π” with “6π” and “12π”, respectively.

p. 18, Figure 1.34. In the figure, replace “2π” and “4π” with “4π” and “8π”, respectively.

p. 64, line –11. In the third line in the display for θ, replace “if x<0, y≥0” with “if x<0”.

p. 90, line –4 of Example 12. Replace “{(x,y,z) | z = y^2 − x^2, y = c} = {(x,c,z) | z = c^2 − x^2}” with “{(x,y,z) | z = y^2 − x^2, y = c} = {(x,c,z) | z = c^2 − x^2}”.

p. 114, line 3. In the the display, replace “√ε^2 m + ··· ϵ^2 m” with “√ε^2 m + ··· + ϵ^2 m”.

p. 138, Example 5. Replace “∂^5 f/∂z∂y∂w∂x^2” with “∂^5 f/∂z∂y∂w∂x^2”.

p. 166, line 3 of displaybox. Replace “x_0 ∈ X” with “x_0 ∈ S”.

p. 169, Example 10. Replace “∂F_z(x_0, y_0, z_0) ≠ 0” in line 5 of the example with “F_z(x_0, y_0, z_0) ≠ 0”.

p. 202, Exercise 35. Replace “show that the position vector x(t_0) is orthogonal to the velocity vector x′(t_0)” with “show that either the position vector x(t_0) is orthogonal to the velocity vector x′(t_0) or x(t_0) is an endpoint of the path”.

p. 276, Exercise 13. Replace “f(x, y) = 2x − 3y + ln xy” with “f(x, y) = 2x + 3y + ln xy”.

p. 282, line –7. Replace “f(1, 4) = 2” with “f(1, 4) = 6”.

p. 289, line 14. Replace “2 − lx” with “2 − lz” in the third row, second column of matrix HL(l; x, y, z).

p. 305, Exercise 14. Replace “... where x denotes the number of pounds of raw cashmere used is and y is the number ...” with “... where x denotes the number of pounds of raw cashmere used and y is the number ...”. (That is, delete the first “is”.)

p. 305, Exercise 15(b). Replace “∂Q/∂K = ∂Q/∂L” with “(1/p)(∂Q/∂K) = (1/w)(∂Q/∂L)”.

p. 327, line 9 of Example 8. The inner integral symbol ∫_y^{y^2-2} (second line of the display) should be deleted.

p. 398, line –2. Replace 2(2.2^3 + 4.4^2) with (2.2^3 + 4.4^2).

p. 410, line –9. Replace “∫_0^1 f(x(t))∥x′(t)∥ dt” with “∫_0^1 f(x(t))∥x′(t)∥ dt”.
p. 412, line 11. Replace \[ \lim_{\Delta t_k \to 0} \sum_{k=1}^{n} F(x(t)) \cdot x'(t^*_k) \Delta t_k \] with \[ \lim_{\Delta t_k \to 0} \sum_{k=1}^{n} F(x(t^*_k)) \cdot x'(t^*_k) \Delta t_k \].

p. 470, equation (2). Replace \( f(X(s^*_i, t^*_i)) \) with \( f(X(s^*_i, t^*_j)) \).

p. 486, line 11. Replace “Vector surface integral element is \( \mathbf{S} = \ldots \)” with “Vector surface integral element is \( d\mathbf{S} = \ldots \)”.

p. 493, line 2 of Theorem 3.3. Replace “whose boundary \( \partial D \) consists of finitely many piecewise smooth, closed orientable surfaces” with “whose boundary \( \partial D \) is closed and consists of finitely many piecewise smooth, orientable surfaces”.

p. 568, answer to §1.7, Exercise 41. Replace \( \mathbf{k} = \cos \varphi \mathbf{e}_\rho - \sin \theta \mathbf{e}_\varphi \) with \( \mathbf{k} = \cos \varphi \mathbf{e}_\rho - \sin \varphi \mathbf{e}_\varphi \).

p. 571, answer to §2.1, Exercise 13(a). Replace “\( f_1(x) = 2x_1 - x_3 - x_4 \)” with “\( f_1(x) = 2x_1 - x_3 + x_4 \)” and replace “\( f_3(x) = 2x_1 - x_3 - x_4 \)” with “\( f_3(x) = 2x_1 - x_3 + x_4 \)”.

p. 587, answer to §4.2, Exercise 13. Replace “\((-\frac{1}{2}, \frac{1}{3})\)” with “\((-\frac{1}{2}, -\frac{1}{3})\)”. 