

Errata to S. J. Colley, *Vector Calculus*, 3rd ed., first printing

June 28, 2010

- p. 27, lines 4–5 of Definition 4.1. Replace “spanned by \mathbf{a} and \mathbf{b} or is $\mathbf{0}$ ” with “spanned by \mathbf{a} and \mathbf{b} or is zero”.
- p. 55, last line. Replace
$$A_{12} = \begin{bmatrix} 1 & 2 & 1 & 3 \\ -2 & 1 & 0 & 5 \\ 4 & 2 & -1 & 0 \\ 3 & -2 & 1 & 1 \end{bmatrix} = \begin{bmatrix} -2 & 0 & 5 \\ 4 & -1 & 0 \\ 3 & 1 & 1 \end{bmatrix}$$
 with
$$A_{12} = \begin{bmatrix} \cancel{1} & \cancel{2} & 1 & 3 \\ -2 & 1 & 0 & 5 \\ 4 & 2 & -1 & 0 \\ 3 & -2 & 1 & 1 \end{bmatrix} = \begin{bmatrix} -2 & 0 & 5 \\ 4 & -1 & 0 \\ 3 & 1 & 1 \end{bmatrix}.$$
- p. 138, Exercise 21. Replace “where k is a constant” with “where k is a positive constant”.
- p. 150, Exercise 8(b). Replace “your son’s” with “the child’s”.
- p. 175, Exercise 30(b). Replace “calulate” with “calculate”.
- p. 228, Exercise 33. Insert “of §3.2” after “Example 7”.
- p. 244, before Exercise 8. Replace “Talyor” with “Taylor”.
- p. 286, Exercise 10. The exercise should read: “Find the area A of the largest rectangle so that two squares of total area 1 can be placed snugly inside the rectangle without overlapping, except along their edges. (See Figure 4.41.)”
- p. 308, Exercise 25. Replace “the region bounded by . . .” with “the region in the xy -plane bounded by . . .”.
- p. 342, Figure 5.100. Replace the label “ $y = \sqrt{3x}$ ” with “ $y = \sqrt{3}x$ ”.
- p. 370, line 8. Replace “ $u: [a, b] \rightarrow [c, d]$ ” with “ $u: [c, d] \rightarrow [a, b]$ ”.
- p. 370, lines 10 and 11. In line 10, replace “(i) $u(a) = c$ and $u(b) = d$ ” with “(i) $u(c) = a$ and $u(d) = b$ ”. In line 11, replace “(ii) $u(a) = d$ and $u(b) = c$ ” with “(ii) $u(c) = b$ and $u(d) = a$ ”.
- p. 379, Exercise 22. Replace “oriented so that the z -coordinate increases as one travels along C ” with “oriented counterclockwise around the z -axis (as seen from the positive z -axis)”.
- p. 397, line –12. Replace “may be any function y and z ” with “may be any function of y and z ”.

- p. 425, line 12. Replace “ $\mathbf{F}(\mathbf{X}(s, t)) \cdot \mathbf{n}(s, t)$ ” with “ $\mathbf{F}(\mathbf{X}(s, t)) \cdot \mathbf{n}(s, t)$ ” (i.e., delete a closing parenthesis in the integrand).
- p. 506, Exercise 8. Replace the statement with “ $dx \wedge dy \wedge dz(\mathbf{a}, \mathbf{b}, \mathbf{c}) = -dz \wedge dy \wedge dx(\mathbf{a}, \mathbf{c}, \mathbf{b})$ ”.
- p. 507, Exercise 16. Replace “ $d\omega = x_2 dx_2 \wedge dx_3 \wedge dx_4$ ” with “ $d\omega = x_3 dx_1 \wedge dx_2 \wedge dx_4 + x_1 dx_2 \wedge dx_3 \wedge dx_4$ ”.
- p. 528, Answer to Exercise 23, §3.1. The answer should be “25.09°”.
- p. 528, Answer to Exercise 9, §3.2. The answer should be “ $\sqrt{m^2 + 1} |x_0 - x_1|$ ”.
- p. 530, Answer to Exercise 13(d), §3.4. The answer should be “ $\operatorname{div} \mathbf{F} > 0$ on $\{(x, y) \mid y < 0\}$, $\operatorname{div} \mathbf{F} < 0$ on $\{(x, y) \mid y > 0\}$ ”.
- p. 532, Answer to Exercise 1(b), §4.2. The answer should be “ $\Delta f = -h^2 - k^2$ ”.