Errata to Instructor’s Solutions Manual
to S. J. Colley, Vector Calculus, 4/E

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p. 33, Exercise 8. Replace \( \left( \frac{11}{32}, \frac{11}{32}, \frac{77}{32}, \frac{11}{16} \right) \) with \( \left( \frac{11}{32}, \frac{11}{32}, \frac{33}{32}, \frac{11}{16} \right) \). 

p. 91, Exercise 48. Replace “\((-5y, 5x - 6z, 6y)\)” with “\((5y, -5x - 6z, 6y)\)”. 

p. 94, Exercise 24 Replace \( \nabla f(x,y,z) = \left( \frac{1}{x+y^2}, \frac{2y}{x+y^2}, -\sin z \ln (x+y^2) \right) \) with \( \nabla f(x,y,z) = \left( \frac{\cos z}{(x+y^2)}, \frac{2y \cos z}{(x+y^2)}, -\sin z \ln (x+y^2) \right) \)” and replace \( \nabla f(e, 0, \pi/4) = \left( \frac{1}{e}, 0, -\frac{1}{\sqrt{2}} \right) \)” with \( \nabla f(e, 0, \pi/4) = \left( \frac{\cos z}{(x+y^2)}, \frac{2y \cos z}{(x+y^2)}, -\sin z \ln (x+y^2) \right) \). 

p. 95, Exercise 28 In the matrix for \( Df(3, -1, -2) \), replace \(-6\) in the (2,1) entry with 6. 

p. 158, Exercise 35. Replace “Hence” with “Hence, if \( x(t_0) \) is not an endpoint of the path, we have”. 

p. 207, Exercise 13. First, see Errata to the main text. Then, replace solution with the following: “\( f(x,y) = 2x + 3y + \ln xy \), so \( f_x(x,y) = 2 + 1/x \) and \( f_y(x,y) = 3 + 1/y \). The critical point is \((-1/2, -1/3)\). The second derivatives are \( f_{xx}(x,y) = -1/x^2 \), \( f_{yy}(x,y) = -1/y^2 \), and \( f_{xy}(x,y) = 0 \). \( d_1 = -1/x^2 \) and \( d_2 = 1/x^2 y^2 \). At \((-1/2, -1/3)\), \( d_1 \) is negative and \( d_2 \) is positive so \( f \) has a local max at \((-1/2, -1/3)\).” 

p. 233, Exercise 15. First, see Errata to the main text. Then, in part (a), replace the first sentence with “We may model the problem with a Cobb–Douglas production function (see Example 5 from the text).” In the second sentence, replace “\((K,L)\)” with “\((pK,wL)\).” In part (b), line 1, replace “\(\ldots (120000, 240000), \partial Q/\partial K = 20(2)^{2/3}\n\)” with “\(\ldots (pK,wL) = (120000, 240000)\), we have \(1/p(\partial Q/\partial K) = (1/p)20(2)^{2/3}(p/w)^{2/3}\).” In line 2, replace “\(\ldots (120000, 240000), \partial Q/\partial L = 40(1/2)^{1/3}\n\)” with “\(\ldots (pK,wL) = (120000, 240000)\), we have \((1/w)(\partial Q/\partial L) = (1/w)40(1/2)^{1/3}(w/p)^{1/3}\).” 

p. 234, Exercise 5. In line -4 of the exercise, replace “\((-1, \sqrt{3}, 0)\)” with “\((1, -\sqrt{3}, 0)\)” in line -3 of the exercise, replace “\((-1, \sqrt{3}, 0)\)” with “\((-1, -\sqrt{3}, 0)\).”