Errata to Instructor's Solutions Manual to S. J. Colley, *Vector Calculus*, 3rd ed.

November 5, 2009

p. 6, Exercise 23(d). Replace "$y = -29$" with "$y = -30$".

p. 13, Exercise 20. The first display should read "$\mathbf{F}_1 = \text{proj}_{\mathbf{a}}\,\mathbf{F} = \left(\dfrac{(\mathbf{i}-2\mathbf{j})\cdot(4\mathbf{i}+\mathbf{j})}{(4\mathbf{i}+\mathbf{j})\cdot(4\mathbf{i}+\mathbf{j})}\right)(4\mathbf{i}+\mathbf{j}) = \frac{2}{17}(4,1)$".

p. 13, Exercise 21(b). Replace "$\cos(30°)$" with "$\cos(60°)$".

p. 18, Exercise 11, last line. Replace "$\sqrt{10^2+27^2+(-19)^2}$" with "$\sqrt{10^2+17^2+(-19)^2}$".

p. 26, Exercise 8, line 4. Replace "$(21,3,-6) = 3(7,1,-2)$" with "$(-21,-3,6) = -3(7,1,-2)$".

p. 27, Exercise 16, line 2. Replace "$(-7,1,-4)$" with "$(-7,3,-4)$" and replace "$(1,-2,1)$" with "$(1,-1,1)$".

p. 27, Exercise 16, line 3. Replace "$s(-7,1,-4)+t(1,-2,1)+(0,2,1)$" with "$s(-7,3,-4)+t(1,-1,1)+(0,2,1)$"; the vertical display should read

$$\begin{cases} x = -7s + t \\ y = 3s - t + 2 \\ z = -4s + t + 1. \end{cases}$$

p. 42, Exercise 42, lines −4 and −3. Replace the display with

$$\begin{vmatrix} \mathbf{e}_1 & \mathbf{e}_2 & \mathbf{e}_3 & \mathbf{e}_4 & \mathbf{e}_5 \\ 1 & -1 & -3 & 0 & 1 \\ 6 & 0 & -3 & 2 & -4 \\ 1 & 0 & 0 & 0 & 0 \\ 0 & -1 & 0 & 0 & 0 \end{vmatrix} = -\begin{vmatrix} \mathbf{e}_2 & \mathbf{e}_3 & \mathbf{e}_4 & \mathbf{e}_5 \\ -1 & -3 & 0 & 1 \\ 0 & -3 & 2 & -4 \\ -1 & 0 & 0 & 0 \end{vmatrix} = -\begin{vmatrix} \mathbf{e}_3 & \mathbf{e}_4 & \mathbf{e}_5 \\ -3 & 0 & 1 \\ -3 & 2 & -4 \end{vmatrix}$$

$$= 2\mathbf{e}_3 + 15\mathbf{e}_4 + 6\mathbf{e}_5 = (0,0,2,15,6).$$

p. 56, Exercise 19(a), line 2. Replace "$P(0)$" with "P_0".

p. 56, Exercise 19(a), lines 4 and 5. Replace "$\overrightarrow{P_0P_1}$" with "$\overrightarrow{P_1P_0}$".

p. 142, Exercise 23, last line. Replace "$\theta = (1/2)\sin^{-1}(96/125) \approx .875712 \approx 50.176°$" with "$\theta = (1/2)\sin^{-1}(96/125) \approx 0.43786 \approx 25.088°$".

p. 150, Exercise 18(b), line 2. Replace "$\sqrt{1-s^2}$" with "$-\sqrt{1-s^2}$".

p. 153, Exercise 34(b), line −2. Replace "$-a\sin t_0(x - a\cos t_0)a\cos t_0(y - a\sin t_0) + b(z - bt_0)$" with "$-a\sin t_0(x - a\cos t_0) + a\cos t_0(y - a\sin t_0) + b(z - bt_0)$".

p. 174, Exercise 3(b), line −2. In the radical, replace "$\cos^2 t_0 + \csc^2 t_0 - 2\sin^2 t_0$" with "$\cos^2 t_0 + \csc^2 t_0 - 2 + \sin^2 t_0$".

p. 178, Exercise 28(c), line 1. Replace "$\mathbf{B} \equiv \mathbf{k}$" with "$\mathbf{B} \equiv \mathbf{k}$ or $\mathbf{B} \equiv -\mathbf{k}$".

p. 178, Exercise 28(c), line 2. Replace "$\mathbf{v} \cdot \mathbf{j} = 0$" with "$\mathbf{v} \cdot \mathbf{k} = 0$".

p. 297, Exercise 8, line 3. Replace "$\oint_C (4y - 3x, x - 4y)$" with "$\oint_C (4y - 3x, x - 4y) \cdot d\mathbf{s}$".

p. 302, Exercise 24. Replace "$\iint_D \left(\frac{\partial^2 f}{\partial y^2} + \frac{\partial^2 f}{\partial x^2} \right) dA$" with "$- \iint_D \left(\frac{\partial^2 f}{\partial x^2} + \frac{\partial^2 f}{\partial y^2} \right) dA$" and "$\iint_D 0 \, dA$" with "$- \iint_D 0 \, dA$".