

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

June 17, 2008

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

p. 13, Exercise 21(b). Replace “ $\cos(30^\circ)$ ” with “ $\cos(60^\circ)$ ”.

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. 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 13(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 “ $-\iint_D 0 dA$ ”.