Errata

Svoboda and Dorf, Introduction to Electric Circuits (9e)

Page xiv: in the list of **Summarizing Tables and Figures** Table 8.11-1 should be Table 8.12-1.

Page 7: Power is the time rate of supplying or receiving **energy**.

Page 9: Example 1.5-2

$$i \cdot v_{ab} = 2 \cdot (4) = 8 \text{ W}$$

$$i \cdot v_{ba} = 2 \cdot (-4) = -8 \text{ W}$$

Page 10, Example 1.5-3: Consider the circuit **element** shown…

Page 22, Example 2.2-2:

$$v_2 = i_2^{\,2}$$

The sum of these responses is

$$v_1 + v_2 = i_1^{\,2} + i_2^{\,2}$$

The response to $i_1 + i_2$ is

$$(i_1 + i_2)^2 = i_1^{\,2} + i_1\, i_2 + i_2^{\,2}$$

Because

$$i_1^{\,2} + i_2^{\,2} \neq (i_1 + i_2)^2$$

Page 39, … single-pole, double-throw (SPDT) switch shown in Figure 2.9-**2***a*…

Page 57, The K**V**L equation for this loop…

Page 63,

$$R_1 v_1 + R_2 v_2 + R_3 v_3 - v_3 = 0 \quad \Rightarrow \quad R_1 v_1 + R_2 v_1 + R_3 v_1 - v_3 = 0$$

Page 65, Example 3.3-1

$$v_b = -\frac{400}{100 + 400 + 300}(12) = -6 \text{ V}$$

Page 73: Example 3.4-3 near the end of the example: Substituting R_2=4R_1 into $\dfrac{R_1 R_2}{R_1 + R_2} \leq 2500$ gives $\dfrac{R_1 (4R_1)}{R_1 + 4R_1} \leq 2500$, after which the example proceeds correctly.

Page 77, Figure 3.6-2 caption: Equivalent circuit for the circuit of Figure 3.6-**1**.

Page 79, Example 3.6-1: so the current in the 200-Ω resistor in Figure 3.6-5***c*** is labeled as i_1.

Page 79, Example 3.6-1: (As noted earlier, the current i in Figures 3.6-**5***a* and *c* have the same value as the current i in Figure 3.6-**4**.)

Page 83, Next use Eq. 3.7-2 to eliminate i_6 from Eq. 3.7-**7** as follows…

Page 120, Example 4.2-3

$$R_2 = 2\ \mathbf{\Omega}$$

Page 123, Example 4.3-1:

Apply KCL at node 2 to get

$$0.1 = \frac{v_2 - v_1}{65} + \frac{v_2 - 60}{75} = \quad \Rightarrow \quad -\left(\frac{1}{65}\right)v_1 + \left(\frac{1}{65} + \frac{1}{75}\right)v_2 = 0.1 + \frac{\mathbf{60}}{\mathbf{75}}$$

Organize these equations in matrix form to write

$$\begin{bmatrix} \frac{1}{50} + \frac{1}{65} + \frac{1}{80} & -\frac{1}{65} \\ -\frac{1}{65} & \frac{1}{65} + \frac{1}{75} \end{bmatrix} \begin{bmatrix} v_1 \\ v_2 \end{bmatrix} = \begin{bmatrix} \frac{60}{80} \\ 0.1 + \frac{\mathbf{60}}{\mathbf{75}} \end{bmatrix}$$

Solving, we get $v_1 = 31.081$ V and $v_2 = 47.990$ V

Page 177: … Then, dividing both sides of Eq. 5.3-2 by v_1 …

Page 274, near the end of Example 7.2-4. The slope at 6 ms should be – 12 X 10^3 V/s and b = (5 X 10^{-6}) (-12 X 10^3) = –60 mA.

Page 282, Example 7.5-1: The voltage for t **>** 0 is

Page 368, P 8.4-5 The circuit shown in Figure P 8.4-5 is at steady state before the switch **closes** at $t = 0$. The switch remains **closed** for 0.5 second and then **opens**. Determine $v(t)$ for $t \geq 0$.

Page 395, Equation 9-7-10

$$\frac{d^2 i}{dt^2} + 7\frac{di}{d\boldsymbol{t}} + 6i = 18e^{-6t}$$

Page 400, … we first use $v_1(0) = 5$ **V** along with Eq. 9.9-9 to obtain…

Page 428, Example 10.2-1

$$\theta_2 - \theta_1 = -75° - 45° = -120° = -\frac{\mathbf{2}\pi}{3}\ \text{rad}$$

The minus sign indicates a delay rather than an advance. Convert this angle to a time using Eq. 10.2-5

$$\theta_2 - \theta_1 = 2\pi \frac{t_d}{T} \quad \Rightarrow \quad t_d = \frac{(\theta_2 - \theta_1)T}{2\pi} = \frac{-\frac{2\pi}{3}(0.0314159)}{2\pi} = -10.47 \text{ ms}$$

Page 429: The first line of Example 10.2-2 refers to Figure 10.2-6 but should instead refer to Figure 10.2-5.

Page 431: In the last line on the page *j*4.25**cos**(115°) should be *j*4.25**sin**(115°). The value *j*3.852 is correct.

Page 438, Example 10.4-2, Figure 10.4-7: The inductance is **100** mH.

Page 438, Example 10.4-2, 2nd line from the bottom: Apply KCL at the top **right** node.

Page 441, Using KCL in Figure 10.5-**2**a shows that…

Page 446: The first line of text refers to Figure 10.8-6b but should instead refer to Figure 10.5-6b.

Page 453, Example 10.6-3, Figure 10.6-12: Z_1 and Z_2 should be $Z_{\mathbf{2}}$ and $Z_{\mathbf{3}}$.

Page 453, Example 10.6-4, $v_s(t) = 125\cos(5000t + 15°)$ mV. Also, the grounded 10 kΩ resistor in Figures 10.6-13 and 14 should be 4 kΩ.

Page 457, Apply KVL to the left mesh to get… Apply KVL to the **right** mesh to get…

Page 458, …to obtain the Thevenin equivalent circuit in Figure 10.7-12***f***.

Page 460, … *j*1.5 Ω in Figure 10.8-3***b***…

Page 466, Step 3 of Example 10.11-1:

$$\tau = R_t C = 2 \times 0.05 = 0.1 \quad \mathbf{s}$$

Page 471: Figure 10.11-11 should be numbered as Figure 10.11-10. (References in the text already refer to this figure as Figure 10.11-10.

Page 533: Suppose both coil currents enter the dotted ends of the coils, as in Figure 11.9-**2***a*

Page 538: The circuit shown in Figure 11.9-7**a** is very similar to the circuit shown in Figure 11.9-6a.

Page 544, Example 11.10-3, Figures 11.10-11 and 12: The source voltage is $120\angle \mathbf{0}°$ V instead of $120\angle 15°$ V . Also

$$\frac{(120\angle \mathbf{0}°)(8.92\angle -48°)^*}{2} = 358 + j398 \text{ VA}$$

Page 593, Example 12.8-2**:** The two wattmeters in Figure 12.8-2 read P_1 = 60 kW and P_2 = 180 **k**W

Page 638: Example 13.4-3

$$C = \frac{1}{14{,}130^2\left(0.020\right)} = 0.25\ \mu\text{F}$$

Page 677, Example 14.2-6.

Page 686: The last line of text refers to Table 14.4-4 but should instead refer to Table 14.2-2.

Page 689, Example 14.4-4:

$$v(t) = L^{-1}\left[\frac{4}{s} - \frac{2(s+3)}{(s+3)^2 + 25}\right] = 4 - 2\,e^{-3t}\cos(5t)\ \text{ for }\ t \geq 0$$

Page 691, The voltage across the impedance in Figure 14.7-2***c***…

Page 692, …the current source in Figure 14.7-2***c***.

Page 705, Equating transfer functions in Eqs. 14.8-13 and 14.8-15 gives…

Page 747, Equation 15.2-11:

$$c_n = \sqrt{a_n^2 + b_n^2} \quad \text{and} \quad \theta_n = \begin{cases} -\tan^{-1}\left(\dfrac{b_n}{a_n}\right) & \text{if } a_n > 0 \\ 180° - \tan^{-1}\left(\dfrac{b_n}{a_n}\right) & \text{if } a_n < 0 \end{cases}$$

Page 748, Substitute the coefficients a_0, a_n and b_n given in Eq. 15.2-14 into Eq. 15.2-3:

***v*(*t*)** = …

Page 761: Notice that ***v*(*t*)** is an even function…

Page 776: written above the table in Figure 15.8-6

Page 796: Problem P 15.3-4 has a reference to Problem P 15.4-3, but should instead reference Problem P 15.3-3.

Page 829, 4 lines from the bottom of the page: The reference to Section 16.14 should be a reference to Section 16.6.

Page 880: The trigonometry of Figure B.5 and Figure B.6 provides the following equations for converting between the rectangular and polar forms of complex numbers.