

Errata for Electric Circuits by Alexander and Sadiku Second Edition

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Errors in the Text Only (Errors in Appendix F Listed Separately)

Page 66	Prob. 2.21: The answer in the Text is for 10 Ohm resistor in place of 1 Ohm.
Page 69	Prob. 2.44 needs delta-wye transformation. Move it to Section 2.7.
Page 71	Prob. 2.54: Change the 15-Ohm resistor to 150 Ohms.
Page 115	Prob. 3.26: Change 3 V to 3 A in the Figure.
Page 120	Prob. 3.57: Remove the short across the 4-k Ω resistor.
Page 122	Prob. 3.71: The units of 12-V source should be V, not A.
Page 136	Example 4.7: Figure 4.21(a) should have v_x near the dependent source.
Page 146	Example 4.12: In the solution, value of R_N is wrong. It should be 5 Ohms.
Page 161	Prob. 4.5: Show the reference for v_0 .
Page 163	Prob. 4.24: V_0 is not specified in Prob. 4.11. Show it in the Figure.
Page 163	Prob. 4.29: Source transformation is unnecessary. Only Ohm's law is needed.
Page 164	Prob. 4.37: Remove the short across the current source.
Page 166	Prob. 4.55: I should be specified to be in mA. The dependent source is 0.001 V_{ab} .
Page 167	Prob. 4.63: Units of the 20- Ω resistor are wrong.
Page 168	Prob. 4.69: The dependent source should be $3v_0/1000$.
Page 171	Prob. 4.98: Practice Prob. 4.20 should be replaced by 4.18.
Page 177	Practice Prob 5.1: Wrong sign in the answer for i_0 .
Page 199	Prob. 5.1: Open-loop gain should be 8×10^4 to be consistent with the answer.
Page 199	Prob. 5.8(b) is bad. There is no unique answer.
Page 202	Prob. 5.30: In the statement, 20-Ohms should be 20-kiloOhms.
Page 217	Practice Prob. 6.3: 93 mV and +1.736 V
Page 230	Practice Prob. 6.12: The answers are not in correct order. The last answer is for $v(t)$. The one preceding it is for $v_2(t)$.
Page 234	Example 6.15: In the integrand in the last equation, dt is missing.
Page 235	Example 6.15: Figure 6.40(a): Replace 0.6 M Ω by 0.5 M Ω and change the polarity of 1-V source.
Page 236	Practice Prob. 6.15: In Figure 6.41, replace v by v_0 everywhere.
Page 236	In summary, in the second equation, replace $i(t_0)$ by $v(t_0)$.
Page 239	Prob. 6.13: Replace 3-Ohm resistor by 30-Ohm to be consistent with the answer.
Page 241	Prob. 6.28: Requires delta-wye transformation, not given in the Text.
Page 242	Prob. 6.37: The problem should ask for energy stored at $t = \pi/200$ s.
Page 245	Prob. 6.62: It may not be possible to find $i_2(0)$.
	Prob. 6.63: The Figure 6.86 (b), current should be zero from 2 to 4 s.

Page 247	Prob. 6.77(b): The horizontal axis should be in s, not in ms, to be consistent with the answer.
Page 261	Practice Prob. 7.5: In the answer, $v_0 = 8$ V for $t < 0$.
Page 297	Prob. 7.7: The dependent source should be $0.5v_x$, not 0.5 V
Page 305	Prob. 7.71: Can not find i_0 in the resistor whose value is missing. It is 8 k Ω .
Page 378	Figure 9.7(b): shows t_0 at wrong place. It should be after the peak.
Page 382	In many examples and practice problems, units are missing.
Page 383	Practice Prob. 9.7: The answer should have units in Volts.
Page 403	Units for all the phasors and sinusoids are missing.
Page 410	Prob. 9.81: R_2 and C_2 are in series.
Page 416	Practice Prob. 10.1: The correct answers are: $v_1(t) = 11.32 \cos(2t - 30^\circ)$ V, $v_2(t) = 33.0 \cos(2t - 32.9^\circ)$ V.
Page 429	Practice Prob. 10.9: $Z_{Th} = 4.47 \angle -7.64^\circ \Omega$. V_{Th} is correct.
Page 437	Practice Prob. 10.14: The correct answers are: $9.84 \angle 44.8^\circ$ V, $2.58 \angle 150^\circ$ A.
Page 448	Prob. 10.47: Voltage source frequency should be 1 rad/s.
Page 451	Prob. 10.71 (Figure 10.110): Change 0.5 μ F to 0.5 mF.
Page 452	Prob. 10.75: Change R_4 to 20 k Ω .
Page 454	Prob. 10.90: $A_v = 1/3 - \{R_2/(R_1 + R_2)\}$ and $f = 1/2\pi RC$.
Page 464	Practice Prob. 11.4: Correct answers: Voltage source – 60 W, Current source – 40 W.
Page 467	Practice Prob. 11.6: Correct answer for power: 6.86 W.
Page 477	Practice Prob. 11.12: Correct answer for apparent power delivered: $+ 10.35$ kVA. Reactive power should be 10 kVAR, not 10 kVA.
Page 480	Practice Prob. 11.13: One can not determine phase angle of the voltage uniquely.
Page 495	Prob. 11.45 (b): The answer in the Text is for apparent power, not average power.
Page 495	Prob. 11.47 (d): Units of I should be A, not V.
Page 496	Prob. 11.57: Replace dependent voltage source by dependent current source.
Page 497	Prob. 11.64: Replace 8 Ohm by 10 Ohms and 10 H by $j12$ Ohms in the Figure.
Page 498	Prob. 11.75: Capacitor will not increase pf since it is already leading.
Page 500	Prob. 11.92: Change 10 kW in the Figure to 20 kW.
Page 501	Prob. 11.93: Change 1.6 kVA to 1.6 kVAR to be consistent with the answer.
Page 501	Prob. 11.97: Change the load $j1$ Ohms to $j20$ Ohms to be consistent with the answer.

Errors in Appendix F (Answers to odd-number problems)

Chapter 1

13	1.178 kJ
31	\$42.05
35	2.33 MWh
37	961.2 J

Chapter 2

19 Incorrect signs in front of 24 W, 20 W, and 16 W.

21 1125 W

39 (a) 0 Ohms, not 0 A.

51 (a) 9.23 Ohms

71 10 Ohms

Chapter 3

7 -0.0556 V, -3.444 V

27 0.625 V, 0.375 V, 1.625 V

31 4.97 V, 4.85 V, -0.12 V

75 -3 A, 0 A, 3 A.

77 4 V, 2 V

Chapter 4

19 $i_x = 13.33\text{A}$. The Text gives v_x .

25 - 6.6 V

55 The answers in the Text are correct if the dependent source is $0.001 V_{ab}$.

63 -3.33 Ohms

69 -10.88 W

87 (c) 9.926 mA, not A.

Chapter 5

1 Open-loop gain should be 8×10^4 to be consistent with the answer in part (c).

61 In the second term, replace R_5 by R_3 .

62 In the numerator, replace R_3 by R_5 .

73 10.8 V

79 - 4.99 V

85 401

Chapter 6

9 13.62 V, 70.7 W.

27 (b) units should be mC.

31 $v(t) = 0.5t^2 - 5t + 15.5$ kV, $i_1(t) = 6t - 30$ mA and $i_2(t) = 4t - 20$ mA for $3 < t < 5$

37 96 mJ is the answer for $t = \pi/200$ s only, not for $0 < t < \pi/200$ s.

57 6.625 H.

61 (b) $i_1(t) = 2.4e^{-2t} + 1.6$ mA, $i_2(t) = 3.6e^{-2t} - 1.6$ mA. This will change answers to part (d) also.

65 The units should be J. $i_1(t) = 4 + 5 \times 10^{-5} e^{-200t}$ A, $i_2(t) = -2 + 1.25 \times 10^{-5} e^{-200t}$ A.

Chapter 7

7 $20 e^{-13t/8}$ V

13 54.05 μ s

39 In part (a) replace 12 by 16.

43 Time constant is 480 s, not 160 s.

55 $96 \exp(-20t)$ V.

69 $-8(1 - e^{-t/500})$ V

71 $0.167(e^{-(t-2)/2000} - 1)$ mA

79 $(-0.5 + 4.5e^{-80t/3})$ A

85 (a) 660 microseconds, (b) 16.6 s.

Chapter 9

15 (b) $120.99 + j 4.415$

21 (c) $h(t) = 1.275\cos(40t - 169^\circ)$

23 (b) Replace sine by cosine

25 (b) Replace $2t$ by $5t$.

47 $0.4607\cos(2,000t + 52.63^\circ)$ A

53 $10.39e^{-20.2^\circ}$ A

61 Zero

Chapter 10

17 $9.25 \exp(-162^\circ)$ A

19 $7.68 \exp(50.2^\circ)$ V

23 The denominator should be $[1 - \omega^2 LC + j\omega RC(2 - \omega^2 LC)]$

37 I_1 and I_2 are switched.

47 The answer is correct if the frequency of the voltage source is 1 rad/s.

67 $V_{th} = 5.72\exp(-118)$, $I_N = 0.438\exp(-75.3)$. Z_{th} is correct.

71 Answer is correct if 0.5 mF is used. The book has 0.5 μ F.

73 The angle should be negative 45 degrees.

75 $0.0769\exp(157.4^\circ)$

Chapter 11

3 Power absorbed by the source is - 7.5 W , not +7.5 W.

5 $P_{2\Omega} = 5.097$ W

- 7 160 W
- 11 12.75 W
- 13 $\mathbf{Z_L} = 12.8 + j\ 49.6\ \text{Ohms}$, $P_{\text{max}} = 90\ \text{W}$
- 17 20 Ohms, 31.25 W
- 19 3.79 W
- 39 Should also mention that the pf is lagging
- 45 (b) $P = 20\ \text{W}$. The answer in the Text is for apparent power.
- 47 (b) $226 - j\ 226\ \text{VA}$
(c) $S = 110.9 + j64\ \text{VA}$
- 52 In the Text it is misprinted as 53.
- 53 $I = 94\exp(29.8^\circ)\ \text{A}$, $\text{pf} = \cos(0.2^\circ) = 1.0$ lagging.
- 61 $\mathbf{I_0} = -5.54 + j132\ \text{A}$, $\mathbf{S} = 6.60\exp(-2.4^\circ)\ \text{VA}$
- 63 $\mathbf{I_0} = 443\ \exp(-28.1^\circ)\ \text{A}$
- 69 (a) Should add that pf is lagging.
- 75 (b) pf is leading, (c) Q can not be decreased by Q_C since Q is already negative.
- 79 $P = -0.05\ \text{W}$
- 89 (b) $2.866 + j2.30\ \text{Ohms}$
- 93 Answer based on using synchronuous motor with 1.6 kVAR, not 1.6 kVA.
- 95 (b) 432 mW
- 97 Answer correct if load is $100 + j20\ \text{Ohms}$. The Figure in the Text shows $100 + j1\ \text{Ohm}$.