

Homework Assignment #3 – Simple Resistive Circuits

Reading Assignment:

Chapter 3 in **Electric Circuits, 8th Ed.** by Nilsson (omit section 3.5)

Problem Assignment:

Note: Be sure to follow the required PROBLEM FORMAT for every assignment in this course.

Chapter 3 # 9, 10, 22, 23, 25, 27, 28

Selected Answers:

- 3.8) a) $R_{ab} = 64 \Omega$ b) $R_{ab} = 30 \Omega$ c) $R_{ab} = 20 \Omega$
3.9) a) $10 \Omega, 24 \Omega, 20 \Omega$ b) $40 \text{ W}, 768 \text{ W}, 500 \text{ W}$
3.10) $P_{30\Omega} = 480 \text{ W}$
3.14) $R_L = 24 \Omega$
3.18) $R_1 = 2.1 \Omega, R_2 = 1.5 \Omega, R_3 = 3.6 \Omega$
3.24) a) $V_x = 1 \text{ V}$ b) $V_x = V_s/30$
3.25) $V_1 = 1050 \text{ V}$
3.27) $i_o = 7.5 \text{ A}, i_g = 15 \text{ A}$
3.28) a) $i_o = 1.44 \text{ A}$ b) $P_{15\Omega} = 345.6 \text{ W}$
3.29) a) $V_g = 60 \text{ V}$ b) $P_{20\Omega} = 16.2 \text{ W}$
3.56) $i_o = 2.4 \text{ A}, P_{140\Omega} = 72.576 \text{ W}$