Attribution Nidhal Abdulaziz

ENGG104 Tutorial **4** extra **Problems** (revision)
(Solutions**)**

Name_____ Student Number_____

TRUE/FALSE. Write 'T' if the statement is true and 'F' if the statement is false.

1) A Megohmmeter is an instrument for measuring very high resistance levels. 1) _____

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

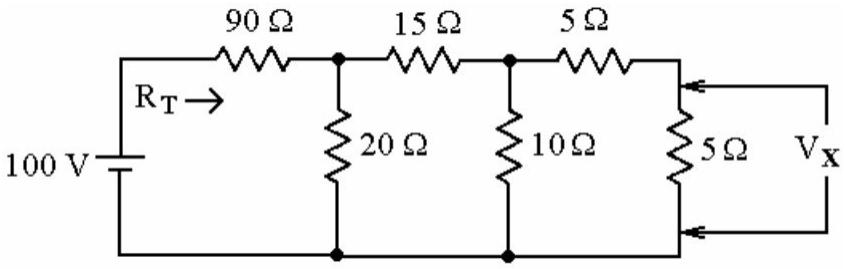


Figure 7.5

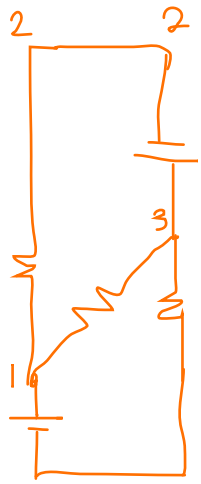
2) See Figure 7.5. Calculate V_X. 2) _____

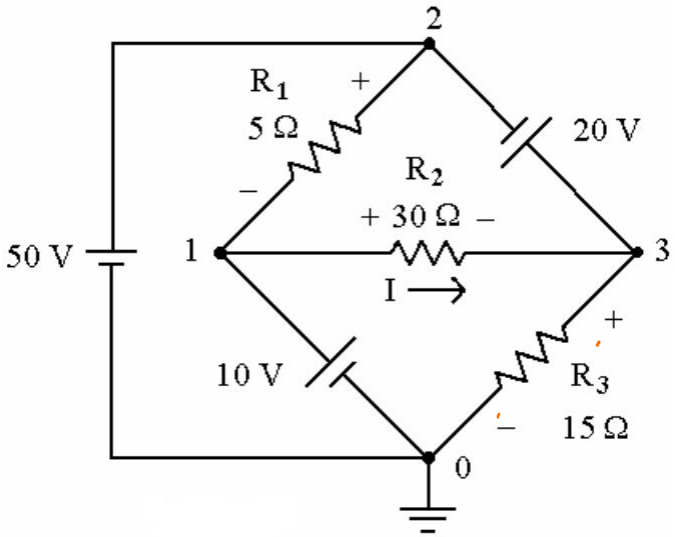
3) See Figure 7.5. Calculate the current through the 20 Ω resistor. 3) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

4) See Figure 7.5. What is the voltage dropped across the 90 Ω resistor? 4) _____
A) 90.0 V B) 18.2 V C) 81.8 V D) 100.0 V

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.





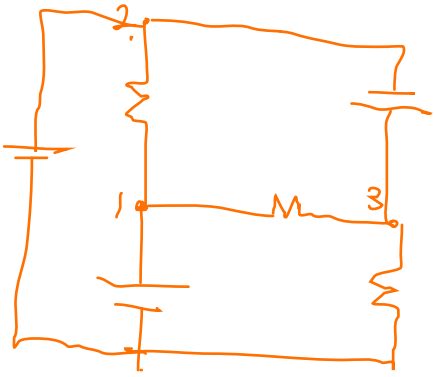


Figure 7.7

5) See Figure 7.7. Determine the current flowing through the 5 ohm resistor. 5) _____

6) See Figure 7.7. Determine the power dissipated across the 15 ohm resistor. 6) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

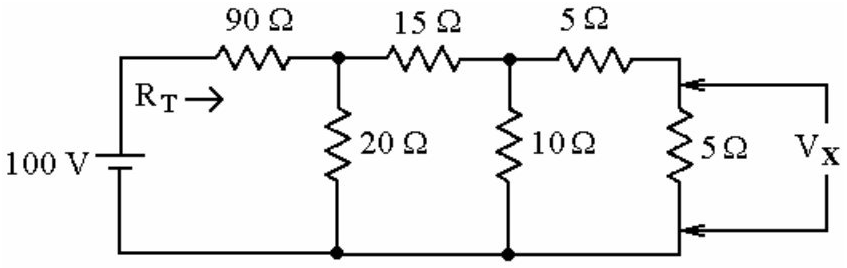


Figure 7.5

7) See Figure 7.5. What is the value of R_T? 7) _____

A) 120 Ω B) 145 Ω C) 100 Ω D) 110 Ω

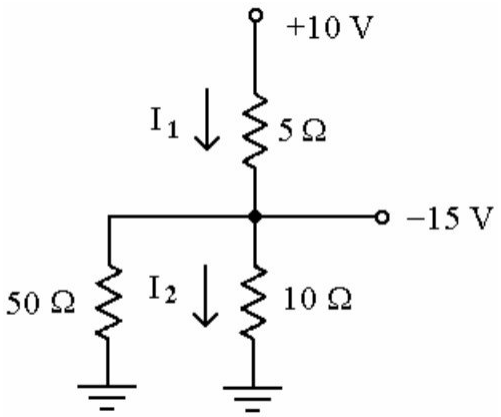


Figure 7.6

8) See Figure 7.6. What is the power dissipated across the 10 ohm resistor? 8) _____

A) 22.5 watts B) 225 watts C) 2.25 watts D) 0.225 watts

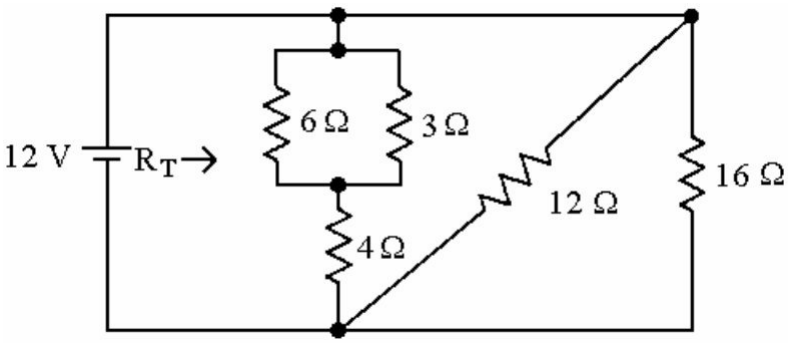


Figure 7.1

9) See Figure 7.1. What is the total resistance R_T? 9) _____

A) 6.4 Ω B) 4.8 Ω C) 2.4 Ω D) 3.2 Ω

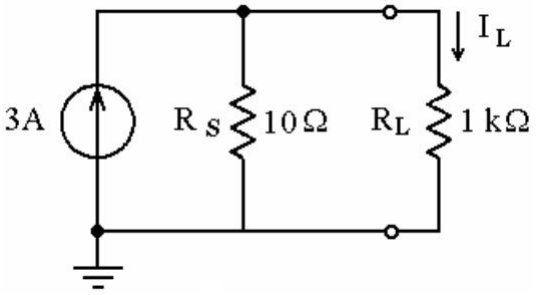


Figure 8.1

10) See Figure 8.1. What is I_L? 10) _____

A) 297.0 mA B) 2.97 mA C) 2.97 A D) 29.7 mA

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

11) See Figure 8.1. How much power is produced by the current source? 11) _____

12) The method of Nodal Analysis involves the use of what law? 12) _____

TRUE/FALSE. Write 'T' if the statement is true and 'F' if the statement is false.

13) An ideal current source has a 0 Ω resistance in parallel with it. 13) _____

14) Source conversions are equivalent only at their external terminals. 14) _____

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

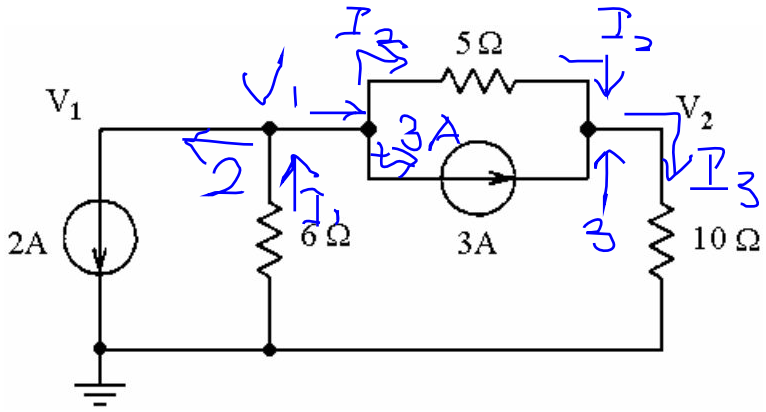


Figure 8.7

15) See Figure 8.7. Use nodal analysis to solve for voltages V_1 and V_2. 15) _____

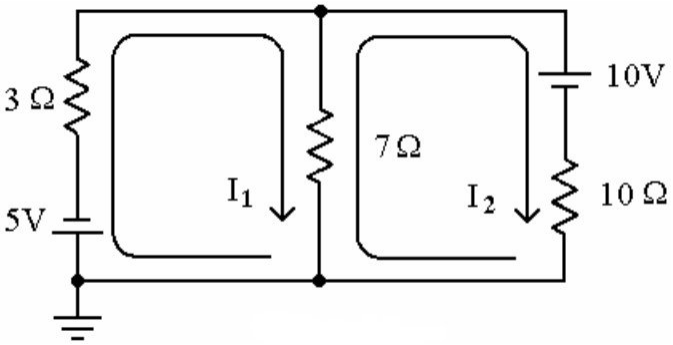


Figure 8.5

16) See Figure 8.5. Compute the voltages across the 3 Ω, 7 Ω, and 10 Ω resistors. Use Nodal analysis

16) _____

Answer Key
Testname: ENGG104 TUT4

1) TRUE
2) 1.25 V
3) 0.5 A
4) A
5) 8 amps
6) 326.7 watts
7) C
8) A
9) D
10) D
11) 89.1 watts
12) Kirchhoff's Current law
13) FALSE
14) TRUE
15) V1 = –12.9 V, V2 = 1.43 V
16) +3.84 V, –1.16 V, –11.16 V (polarity referenced from top to bottom)