

3 pages

Name

Student Number

ENEL 280

MID TERM EXAM 1



2001-10-05-13:30

Instructions

1. Time Limit: 50 min.
2. You may have one hand-written $8\frac{1}{2}$ x 11 "cheat sheet".
3. Do not begin until instructed to do so.
4. Submit examination booklet when finished.
5. Sign the invigilation sheet before leaving.
6. Marks: each question worth 5 marks.
7. Use the reverse side of the pages for your rough work

70
80

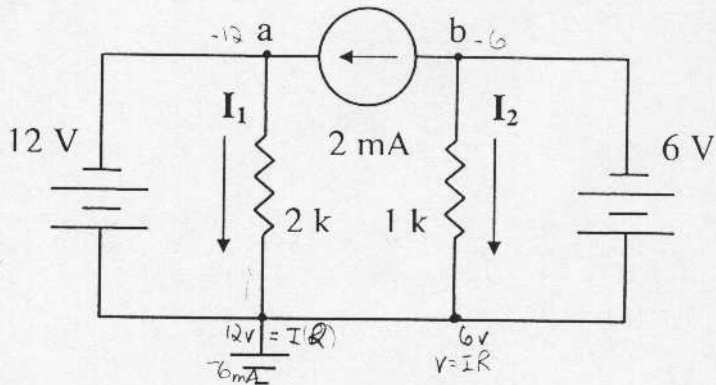
Circle the correct answers.

1. I_1 is:

- a) 2 mA
- b) -2 mA
- c) 4 mA
- d) -4 mA
- e) 6 mA
- f) -6 mA

2. I_2 is:

- a) 2 mA
- b) -2 mA
- c) 4 mA
- d) -4 mA
- e) 6 mA
- f) -6 mA



3. V_{ab} is:

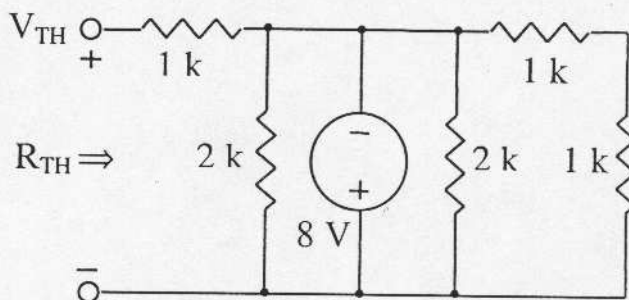
- a) 6 V
- b) -6 V
- c) 12 V
- d) -12 V
- e) 18 V
- f) -18 V

4. V_{TH} is:

- a) 1 V
- b) -1 V
- c) 4 V
- d) -4 V
- e) 8 V
- f) -8 V

5. R_{TH} is:

- a) 1/2 k
- b) 1 k
- c) 2 k
- d) 3/2 k
- e) 5/3 k

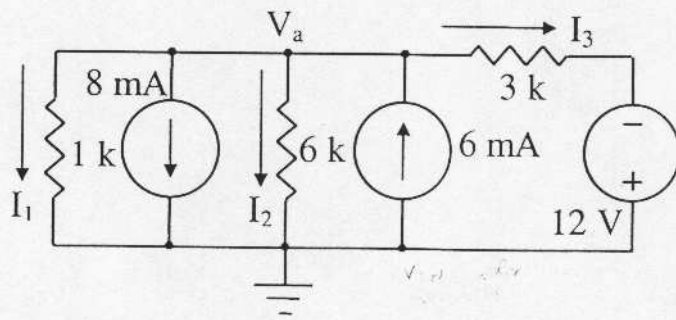


6. $I_1 = 4 \text{ mA}$

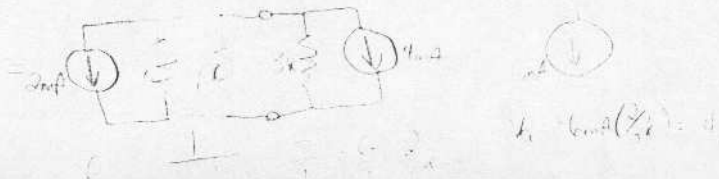
7. $I_2 = 2/3 \text{ mA}$

8. $I_3 = 2 2/3 \text{ mA}$

9. $V_a = -4 \text{ V}$



$V_1 = 12 \text{ V}$
 $I_3 = \frac{2 \text{ V}}{3 \text{ k}} = \frac{2}{3} \text{ mA}$
 $V_a = -4 \text{ V}$



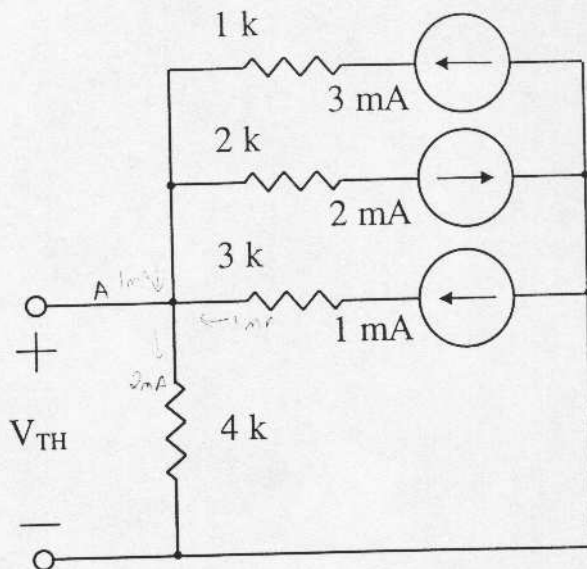
ENEL 280 Mid Term Exam 1

10. V_{TH} is:

- a) 4 V
- b) 8 V ✓
- c) 16 V
- d) 24 V

11. Find the value of a load resistor, R_L , which would transfer maximum power, P_L , from this circuit. $R_L = 4k$ ✓

12. Calculate that power. $P_L = 4mW$ ✓



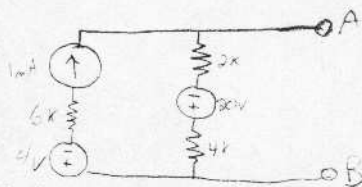
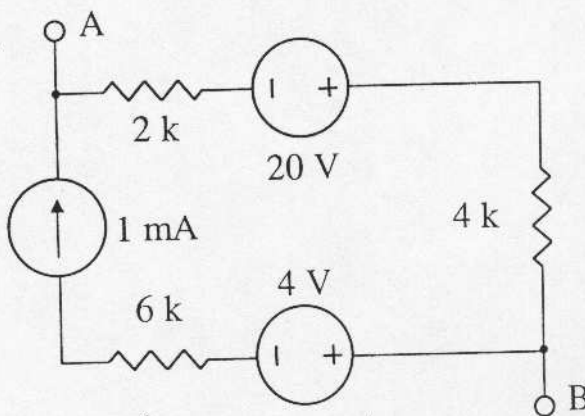
$P_L = \left(\frac{8V}{4+4}\right)^2 4$ $V_A = (2mA)(4k) = 8V$ $R_L = R$
 $= 4mW$

13. V_{TH} is:

- a) 24 V
- b) -20 V
- c) 20 V
- d) -4 V
- e) -24 V
- f) -16 V ✓
- g) 16 V

14. R_{AB} is:

- a) 3k ✓
- b) $8/3k$
- c) $5/3k$
- d) 12k
- e) 6k



$I_{sc} = 16V$ ✓

15. V_O is:

- a) undefined
- b) 5 V ✓
- c) -5 V

16. I_S is:

- a) undefined
- b) 5 mA
- c) -5 mA ✓

