ECE 35, Fall 2019

Quiz 2

Sequence number

Grade

/ 10

Last name

First + middle name(s)

PID

Instructions:
- Read each problem completely and thoroughly before beginning.
- All calculations need to be done on these sheets.
- Write your answers in the answer boxes for each question. Make sure you list units!
- Answers without supporting calculations will receive zero credit.

▲

(1) Find the value of **node voltage v_1** and of **mesh current i_1**.
You can use any analysis technique you want. *(5 points)*

v_1

i_1

$1\,\Omega$

$1\,\Omega$

$1\,V$

v_1

$3\,V$

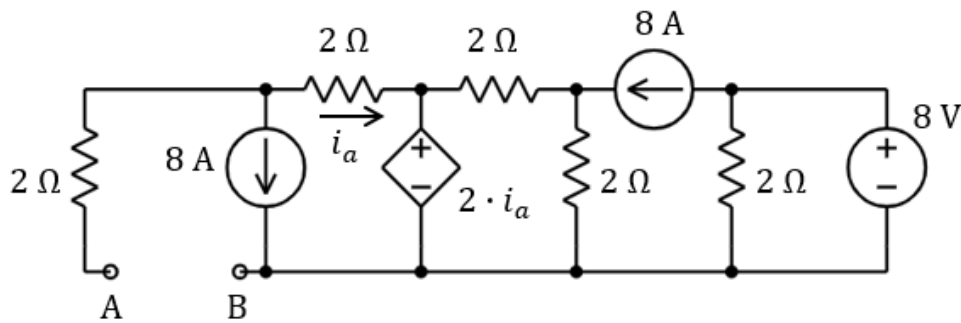$1\,A$

i_1
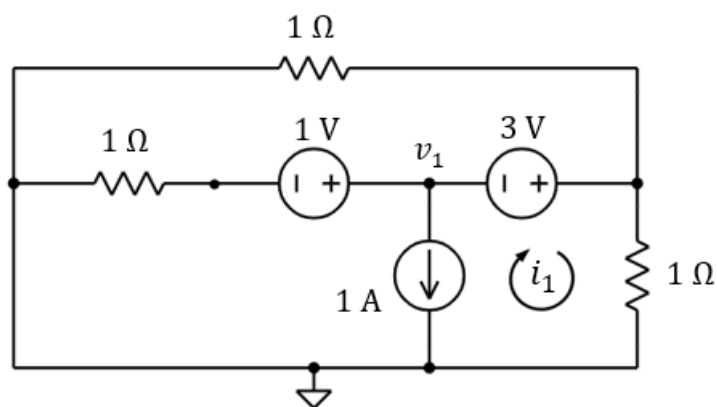
$1\,\Omega$

(2) *(5 points)*

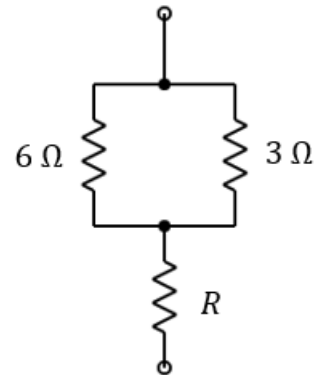(a) In circuit (a) below, find the Thevenin equivalent resistance as seen between A and B.

R_{Th} ▭

(b) I attach the load shown in (b) between A and B in the circuit of part (a). What value of R will result in the maximum power being received by this load (i.e., all the resistors of the load combined)?

R ▭

2 Ω   2 Ω   8 A

8 A i_a $2 \cdot i_a$ 2 Ω   2 Ω   8 V   6 Ω   3 Ω

2 Ω

A   B

R

(a)   (b)