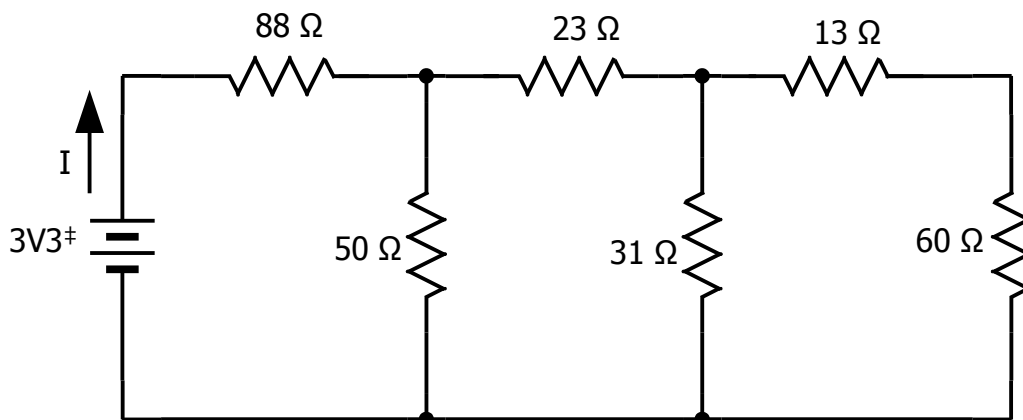


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Practice Problems 1

1. Using your knowledge of series and parallel equivalents that you learned on p. 23 of the Week 1 lab, determine the current I .



$$I = 0.108\ \text{A} = 108\ \text{mA}$$

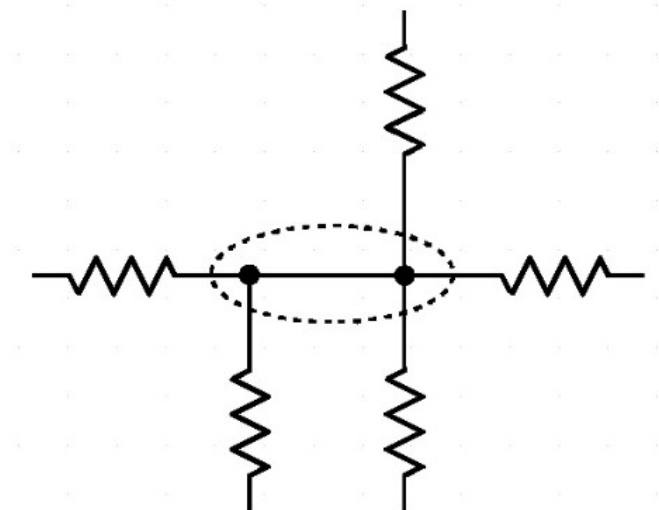
\ddagger 3V3 is shorthand for 3.3 V. You will see this often on schematics.

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Practice Problems 1

2. When are my office hours?

3. This question may require a little digging on your part.



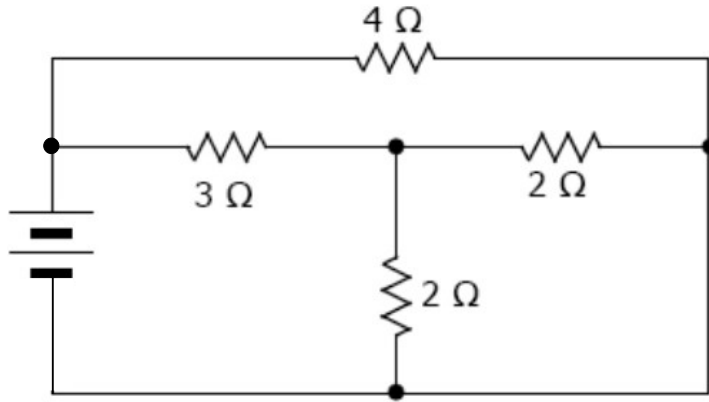
The circuit fragment inside the dotted ellipse is:

- Choose one answer.
- ☐ a. not a node
 - ☐ b. 1 node
 - ☐ c. 2 nodes

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Practice Problems 1

4.



This circuit can be reduced to a voltage source and one resistor. What is the value of that one final resistor?

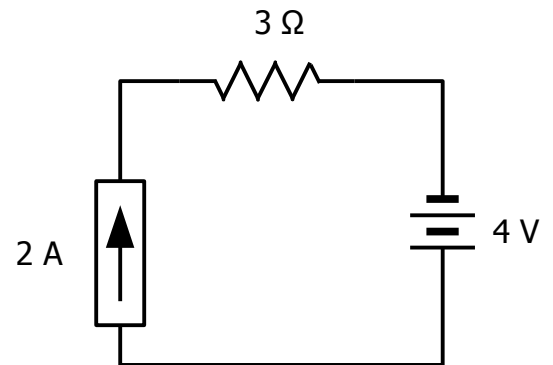
Challenge: try to do this one in your head: no paper/pencil, no calculator/computer. If you understand series and parallel, you can do it.

$2\ \Omega$

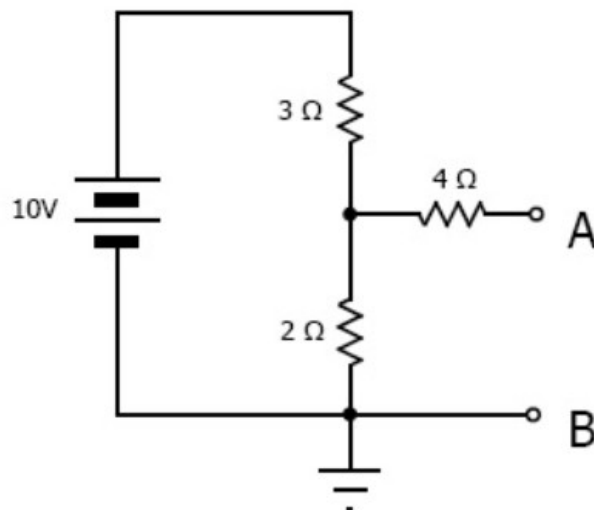
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Practice Problems 1

5. Using your knowledge of the I-V curves for voltage and current sources, plus your knowledge of the Passive Sign Convention, determine if the 4 V battery providing or absorbing power.



6. What is the voltage across the $4\ \Omega$ resistor? NOTE: you may consider this to be a trick question, but it has real meaning.



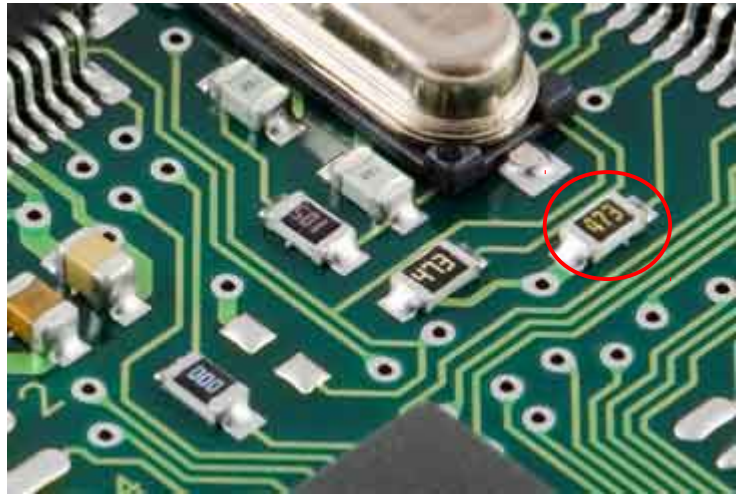
Choose
one
answer.

- ☐ a. 2.67 V
- ☐ b. 0.00 V
- ☐ c. 5.71 V
- ☐ d. 10.00 V
- ☐ e. 4.00 V

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Practice Problems 1

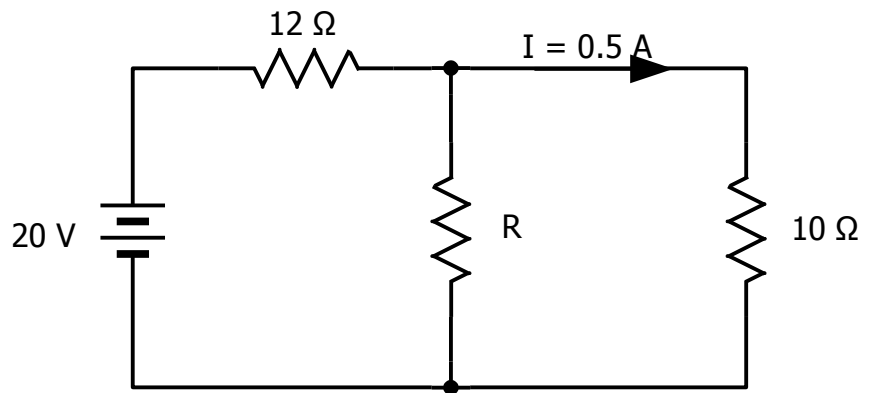
7. This is the picture of a surface mount resistor (labeled 473) on a PC board. Assuming that the three numbers correspond to the first three colors of a regular resistor, what is the resistance of this surface mount resistor?



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Practice Problems 1

8. Using your knowledge of series and parallel equivalents plus the Voltage Divider equation, determine the value of R .

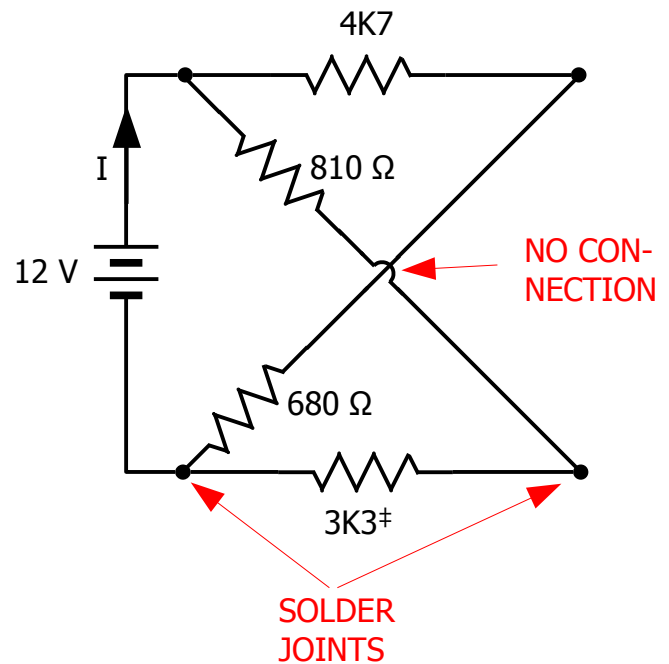


$$R = 6.67\ \Omega$$

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Practice Problems 1

9. Using your knowledge of series and parallel equivalents, determine the value of I .



$$I = 0.00515\text{ A} = 5.15\text{ mA}$$

‡ 3K3 is shorthand for $3.3K\Omega$. You will see this often on schematics.