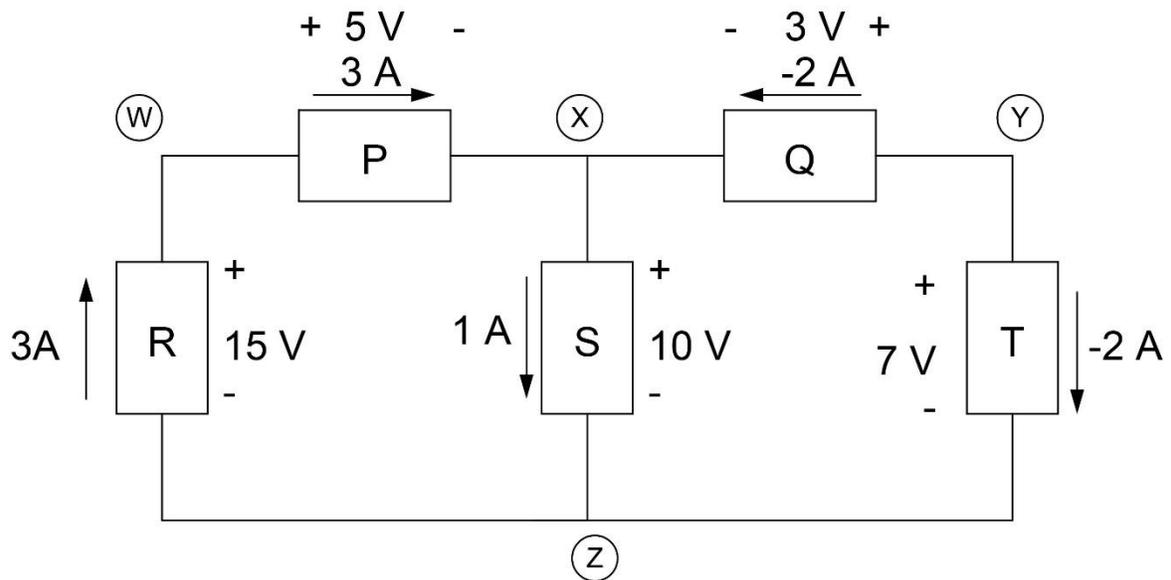


Quizzes for Module 7

Unit 7.1.2

Q 7.1.2.1: For the circuit shown below calculate the power supplied (delivered, produced) by elements P and Q and the power absorbed (dissipated) by elements R, S, and T.

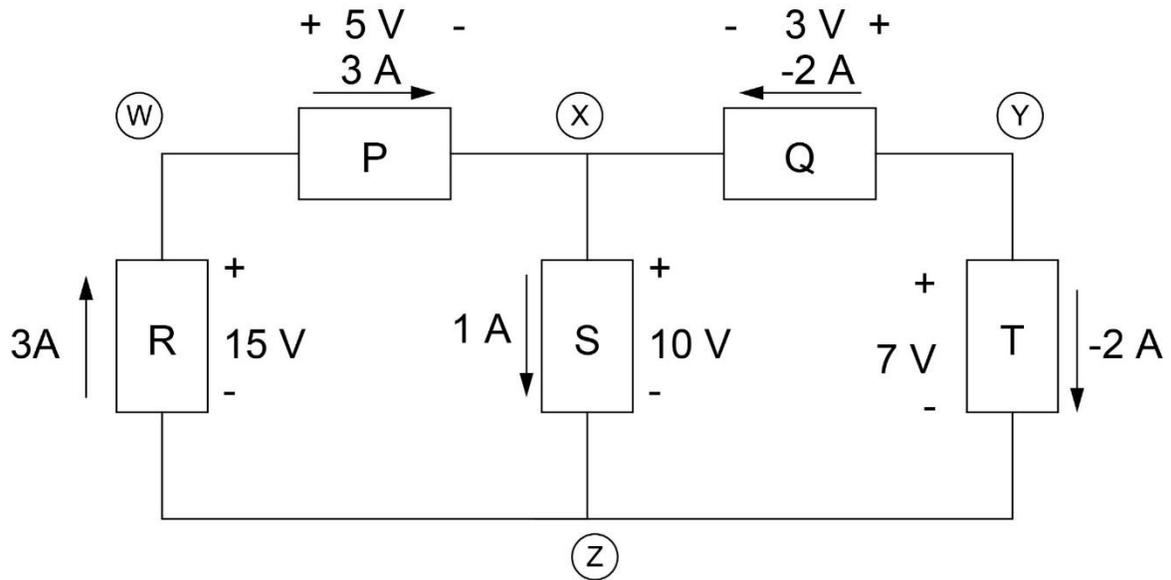


Solution: (Self Assessment)

- Power supplied by element P = - 15 W
- Power supplied by element Q = 6 W
- Power absorbed by element R = - 45 W
- Power absorbed by element S = 10 W
- Power absorbed by element T = -14 W

Unit 7.3.2

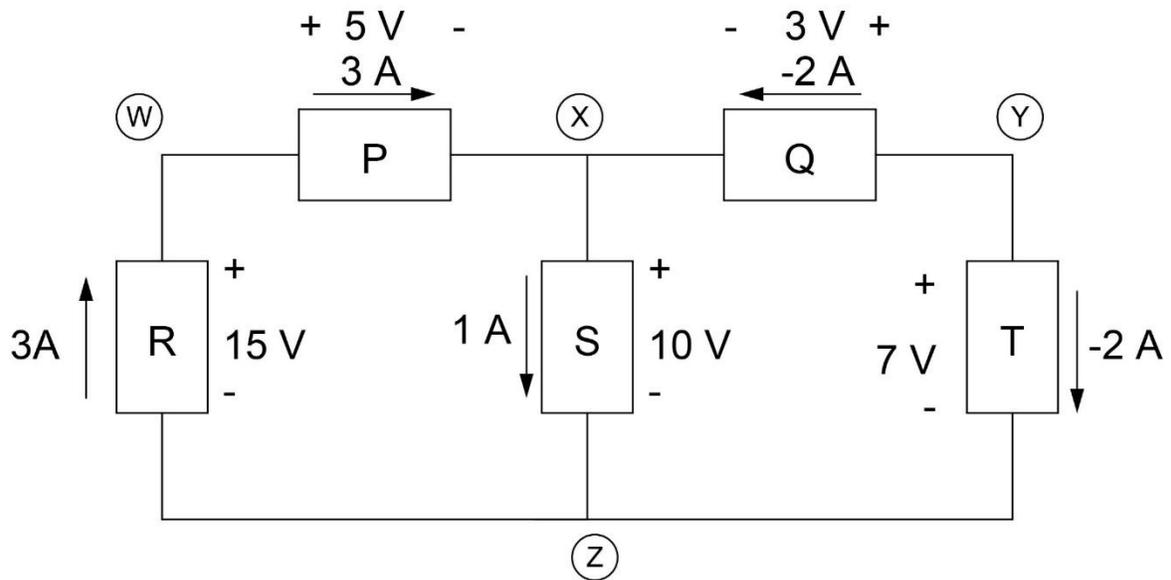
Q 7.3.2.1: For the circuit shown below apply Kirchoff's Current Law (KCL) to nodes W, X, Y and Z. Determine at which nodes KCL is satisfied and at which nodes it is not satisfied.



Solution: (Self Assessment)

- KCL is satisfied at nodes: W and X
- KCL is not satisfied at nodes: Y and Z

Q 7.3.2.2: For the circuit shown below apply Kirchoff's Voltage Law (KVL) to loops defined by the paths WXZW, ZXYZ and YZWX. Determine for which loops KVL is satisfied and for which loops it is not satisfied.

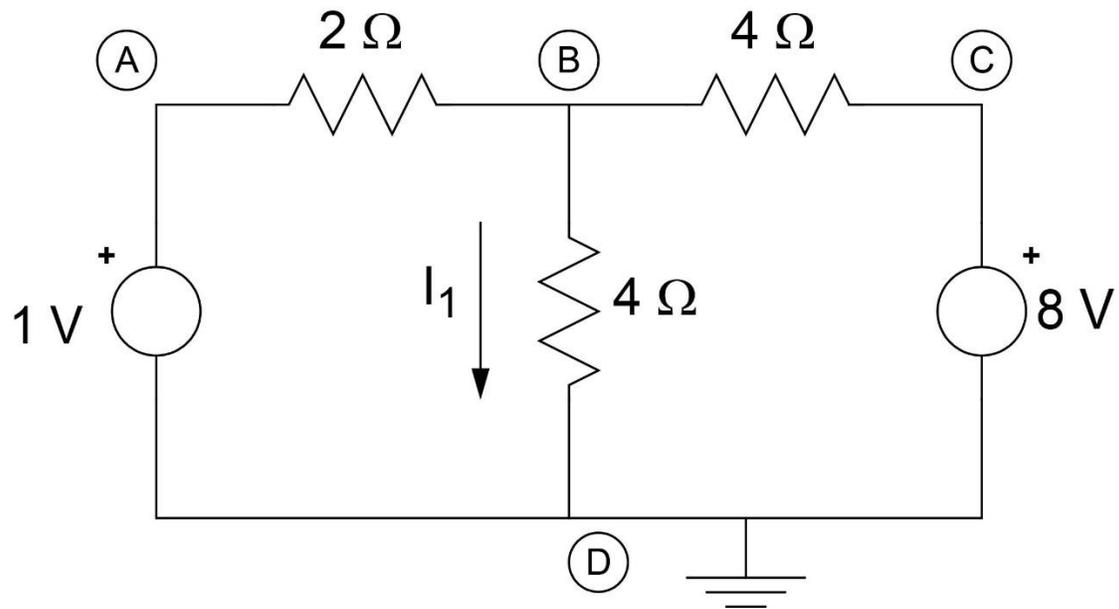


Solution: (Self Assessment)

- KVL is satisfied for loop: WXZW
- KVL is not satisfied for loops: ZXYZ and YZWX

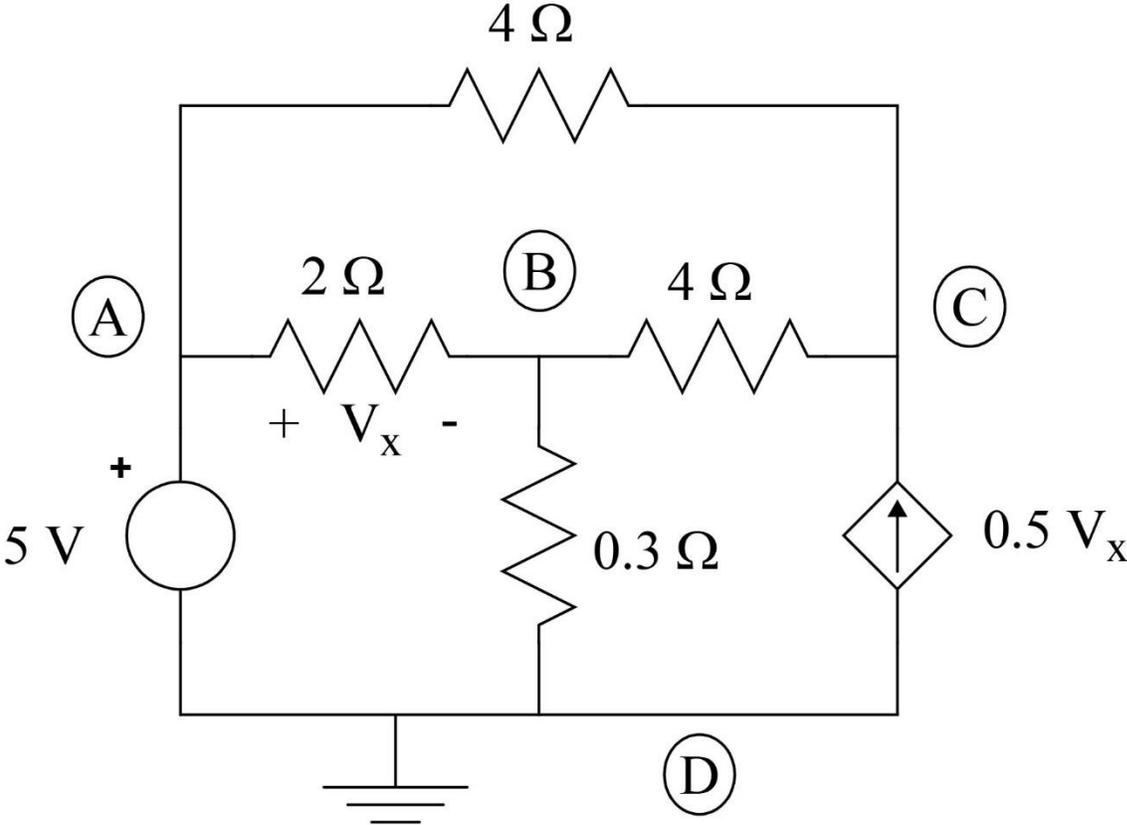
Unit 7.4.4

Q 7.4.4.1: For the circuit shown below calculate the current I_1 and the power absorbed by the 1 V voltage source. Write a combination of Ohm's Law, KCL and KVL equations to solve the circuit.



Solution: (Self Assessment) Current $I_1 = 0.625$ A, power absorbed by 1 V source = 0.75 W.

Q 7.4.4.2: For the circuit shown below calculate the power delivered (supplied) by the voltage source. Write a combination of Ohm's Law, KCL and KVL equations to solve the circuit.



Solution: (Self Assessment) Power delivered (supplied) by voltage source = 7.43 W.