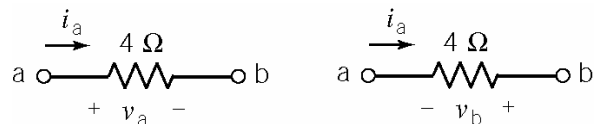


The Passive Convention:

When reference direction of a particular current points from the + toward the - of the polarity of a particular voltage, that current and voltage are said to adhere to the passive convention.

i_a and v_a adhere to the passive convention.	
i_b and v_b adhere to the passive convention.	
i_a and v_b do not adhere to the passive convention.	
i_b and v_a do not adhere to the passive convention.	

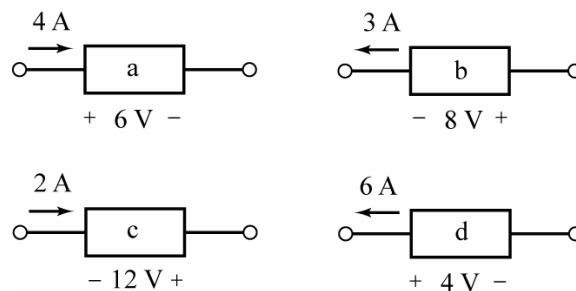
The passive convention is used in “element equations”:



$$v_a = R i_a \quad \text{and} \quad v_b = -v_a = -R i_a$$

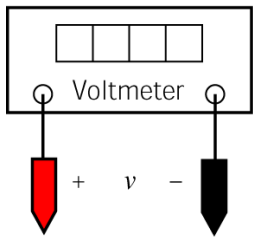
Specification of power and energy indicate the use of the passive convention.

power	uses the passive convention
supplied by	No
supplied to	Yes
absorbed by	Yes
received by	Yes
delivered by	No
delivered to	Yes

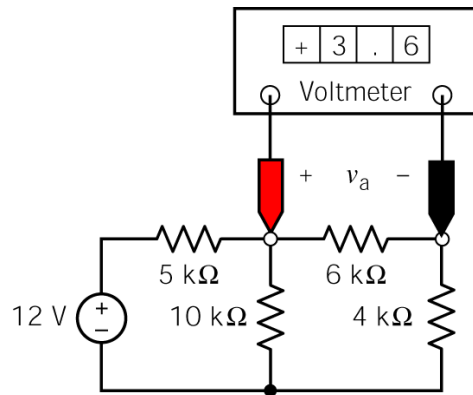


In cases a and b, the element receives 24 W. In cases c and d, the element supplies 24 W.

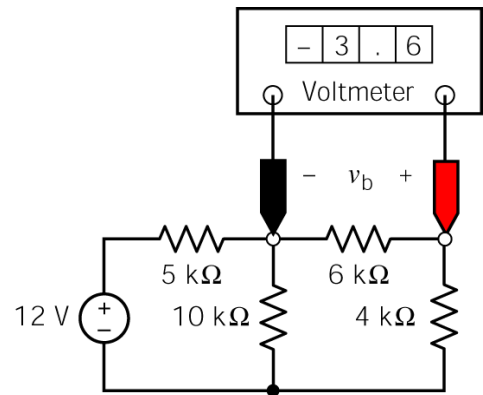
Reference directions indicate probe placement for meters used to measure currents or voltages:



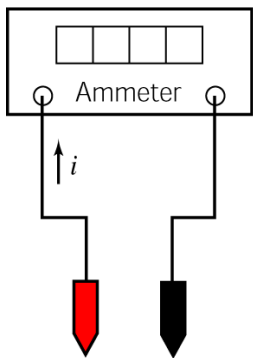
(a)



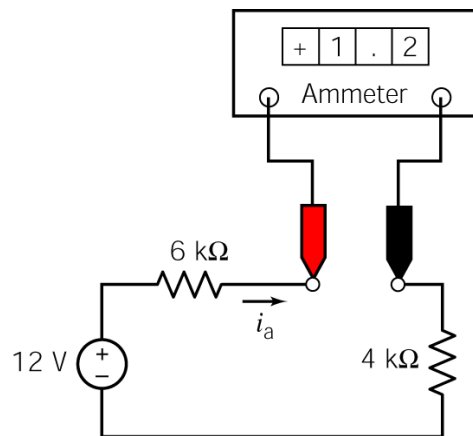
(b)



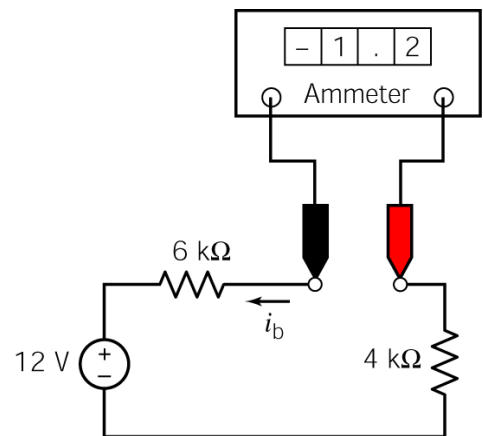
(c)



(a)



(b)



(c)