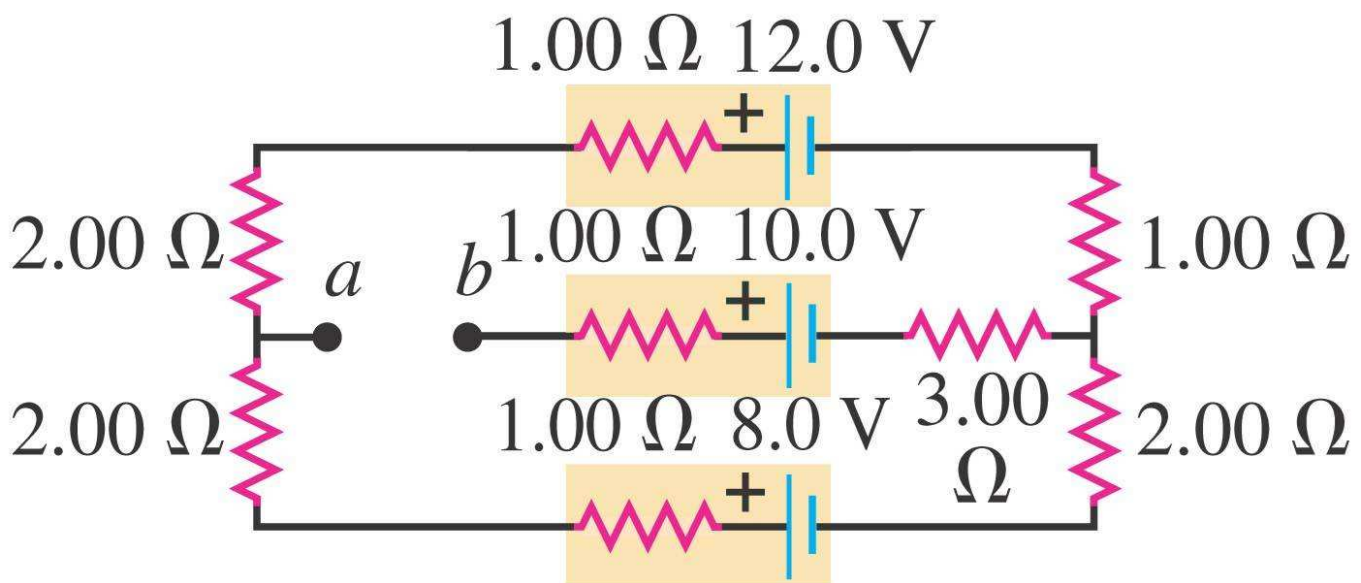
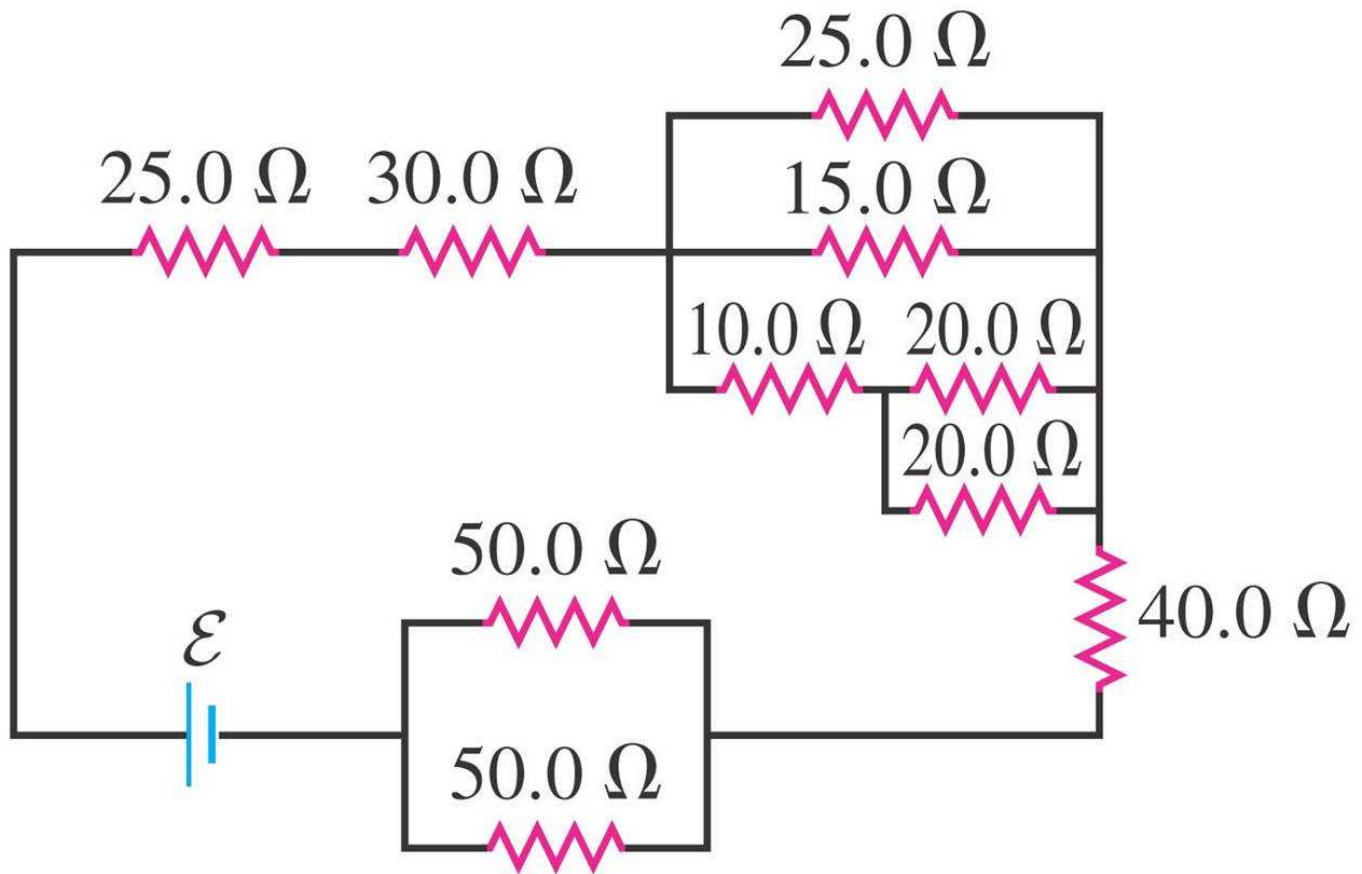


PHYS 161
SUMMER 2012 HOMEWORK
ASSIGNMENT #5
DUE MONDAY, JULY 8

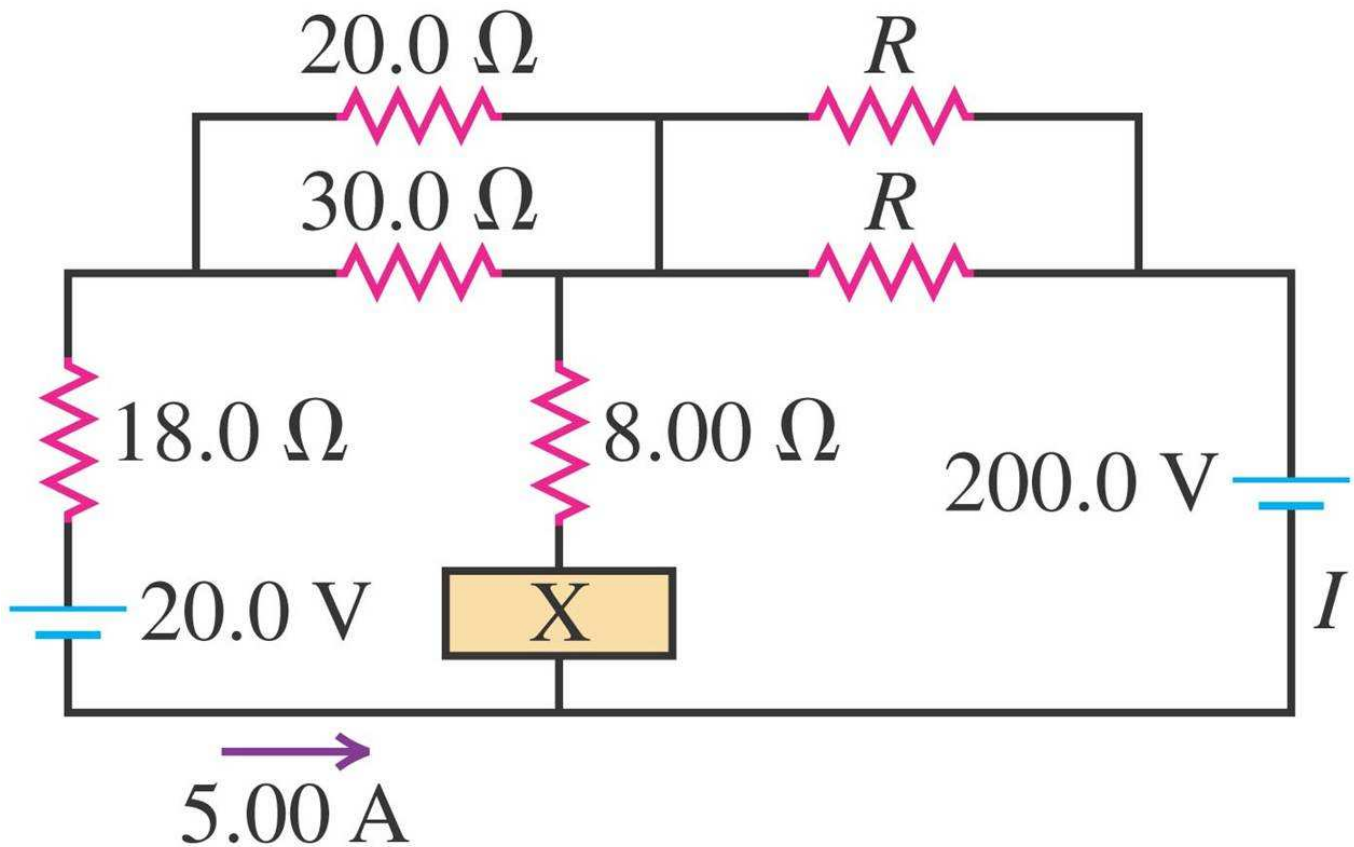
- #1 (a) Find the potential of point a with respect to point b in Fig. P26.67. (b) If points a and b are connected by a wire with negligible resistance, find the current in the 12.0-V battery.



#2 In the circuit shown in Fig P26.70 all the resistors are rated at a maximum power of 1.75 W . What is the maximum emf that the battery can have without burning up any of the resistors?



#3 In the circuit shown in Fig P26.71, the current in the 20.0-V battery is 5.00 A in the direction shown and the voltage across the $8.00\text{-}\Omega$ resistor is 16.0 V , with the lower end of the resistor at the higher potential. Find (a) the emf (including its polarity) of the battery X ; (b) the current I through the 200-V battery (including its direction); (c) the resistance R .



#4 Figure P26.77 employs a convention often used in circuit diagrams. The battery (or other power supply) is not shown explicitly. It is understood that the point at the top, labeled “36.0 V,” is connected to the positive terminal of a 36.0-V battery having negligible internal resistance, and that the “ground” symbol at the bottom is connected to the negative terminal of the battery, even though it is not shown on the diagram. (a) What is the potential difference V_{ab} , the potential of point a relative to point b , when the switch S is open? (b) What is the current through switch S when it is closed? (c) What is the equivalent resistance when switch S is closed?

