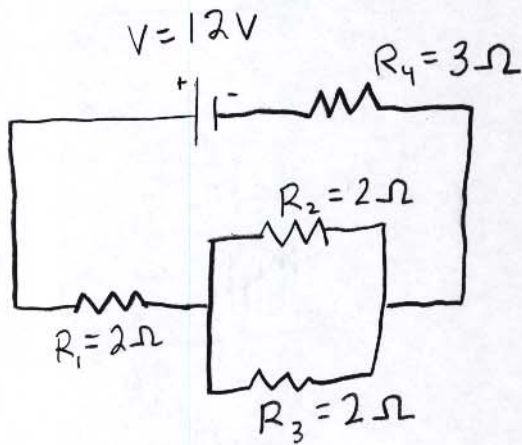


# API Circuit Practice

1)

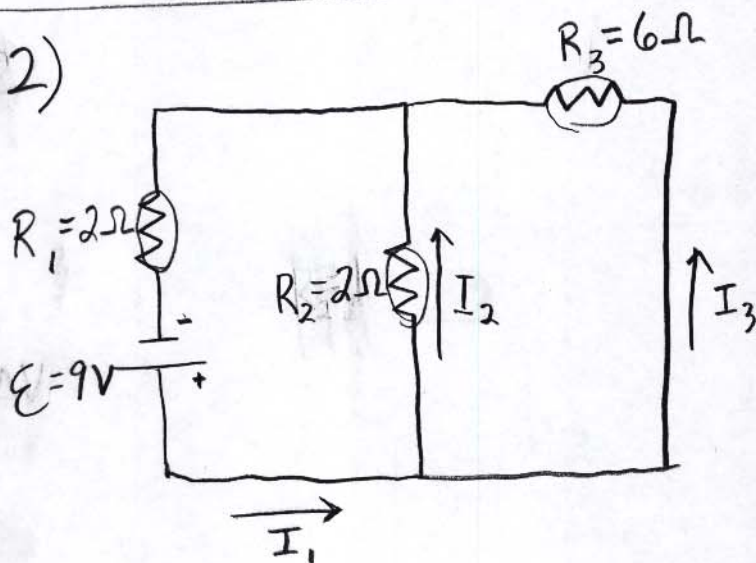


a) What is the current through each resistor?

b) What is the power dissipated in each resistor?

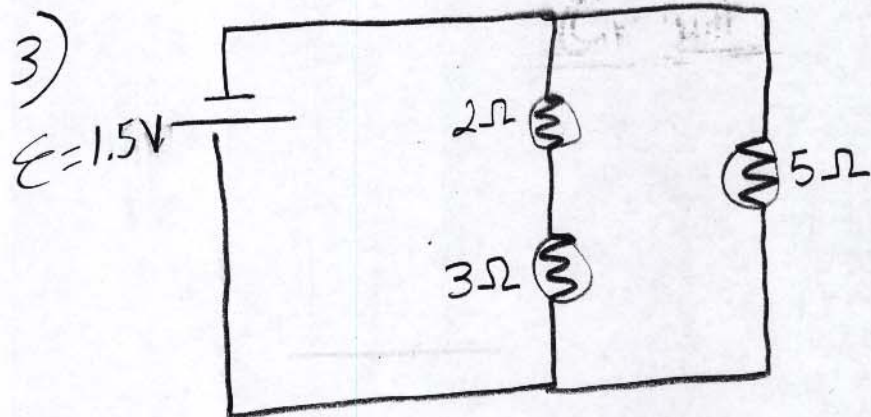
c) What is the power the battery supplies? Explain.

2)



a) Find each current.

b) If the resistors are lightbulbs, rank them in order from brightest to dimmest.



a) Find the potential drop across the  $2\Omega$  resistor.

b) If the  $2\Omega$  resistor burns out, what is the current in the  $5\Omega$  resistor?

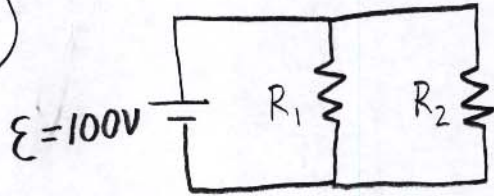
c) What would be the effect on the remaining lightbulbs? ( $3\Omega$ ,  $5\Omega$  after  $2\Omega$  burns out)

d) What would be the advantage of wiring circuits in parallel?

e) What would be a disadvantage of wiring in parallel?

$$R_1 = 10\Omega \quad R_2 = 20\Omega$$

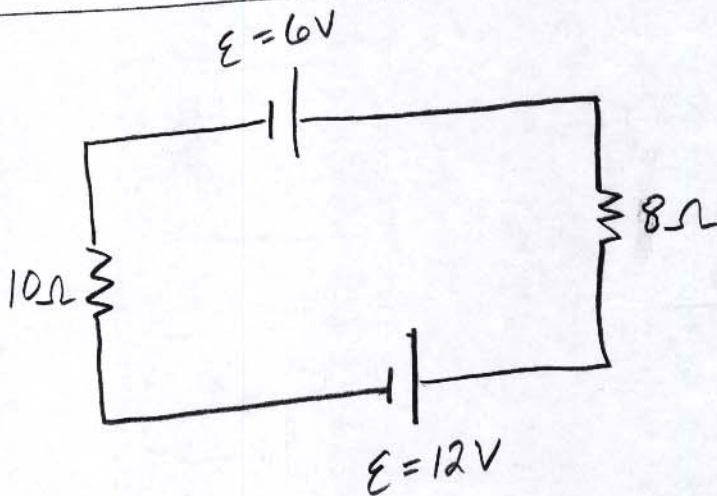
4)



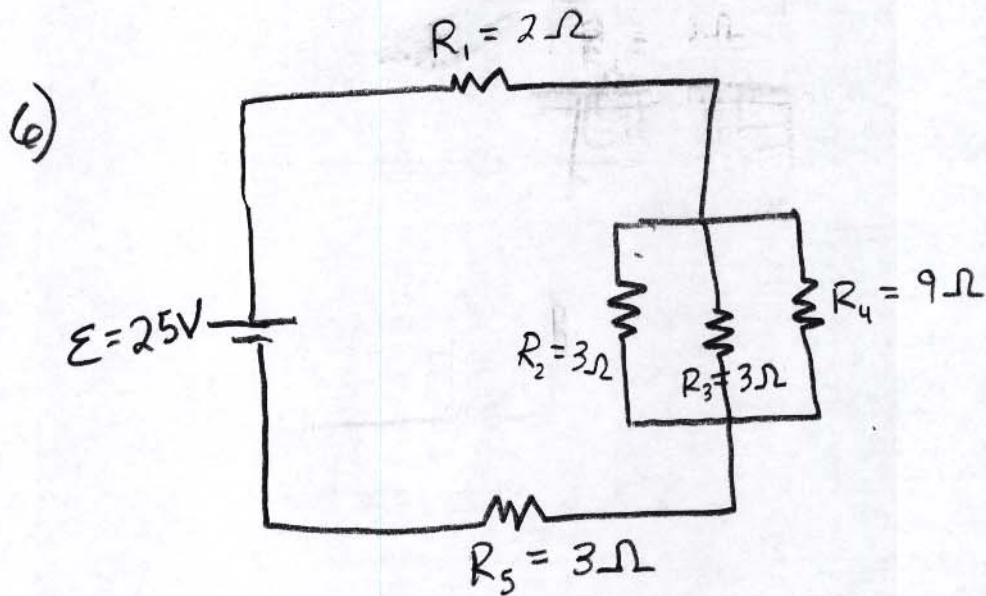
a) How much energy is dissipated in each resistor over 1 min?

b) Redraw the circuit with the resistors in series. What is the effect on the power of the resistors?

5)



a) Find the current in the circuit.



a) Find the current through each resistor.

b) Find the power dissipated by each resistor.

c) How much power does the battery supply?