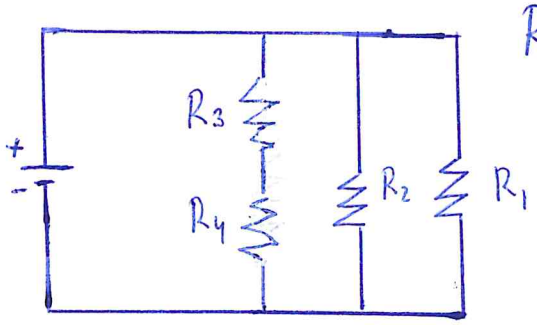
PHYSICS

FINDING INFORMATION ABOUT MORE COMPLEX CIRCUITS

Parallel:	Series:

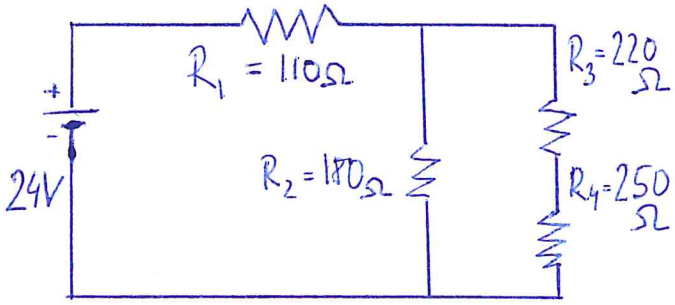
1. Find the equivalent resistance of the electric circuit below:



$R_1 = 10\Omega$, $R_2 = 5\Omega$, $R_3 = 8\Omega$, $R_4 = 4\Omega$

- Before using the formula for equivalent resistance for resistors in parallel R_3 and R_2 must be added using the formula for resistors in series.

2. Find the current in the electric circuit below:



Step 1: locate all resistors in parallel ____, ____, and ____

Step 2: add R_3 and R_4 using the formula for resistors in series

Step 3: Find the resistance from R_2 and (R_3 + R_4) using the formula for resistors in parallel

Step 4: Find the equivalent resistance using the result from step 3 and adding R_1 using the formula for resistors in series

Step 5: Use Ohm's law to fin the electric current

3. Find as much information as you can about the electric circuit below:

- Find the equivalent resistance
- Find the electric current at the battery
- Find the electric current for each resistor
- Find the potential in every closed loop using the Second Kirchhoff's Rule
  $(\sum V_{battery} = \sum V_{resistors\ in\ a\ loop})$
- Use Ohm's Law to find missing information when 2 out of 3 quantities are known