## Physics II

## Kirchhoff

Problem 1.- Determine the magnitude and direction (up or down) of the current through $\mathrm{R}_{1}$.


Problem 2.- We want to find the current through the resistors $\mathrm{R}_{1}, \mathrm{R}_{2}$ and $\mathrm{R}_{3}$. Write down the equations that you need and solve the problem.


Problem 3.- Write down the equations to find the currents in the resistors. The values of the resistances are $R_{1}=10 \Omega, R_{2}=15 \Omega$ and $R_{3}=12 \Omega$.


Problem 4.- Find the current through the $125 \Omega$ resistor.


Problem 5.- Find the current through $\mathrm{R}_{3}$ in the circuit shown:


Problem 6.- Find the current through the resistors $\mathrm{R}_{1}, \mathrm{R}_{2}$ and $\mathrm{R}_{3}$.


Problem 7.- Determine the magnitude and direction (left or right) of the current through $\mathrm{R}_{1}$.


Problem 8.- In the following circuit, determine values of $\mathrm{I}_{\mathrm{ps}}, \mathrm{I}_{1}, \mathrm{I}_{2}, \mathrm{~V}_{\mathrm{A}}$ and $\mathrm{V}_{\mathrm{B}}$.


