A

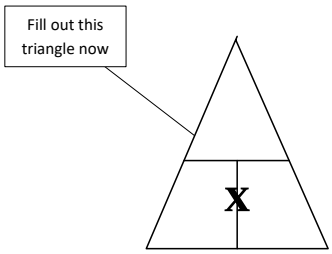
DC fundamentals EE3103

Student workbook 2020 for Ohms and Kirchhoffs laws with Series and parallel exercises

Student name

SERIES CIRCUIT CALCULATIONS
WORKSHEETS 2A, 2B, 3A

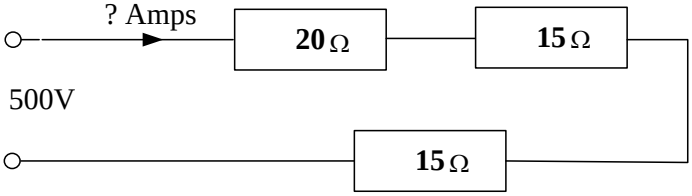
Ohms Law.
Work Sheet 2A
Series calculations.



Determine the unknown value(s).

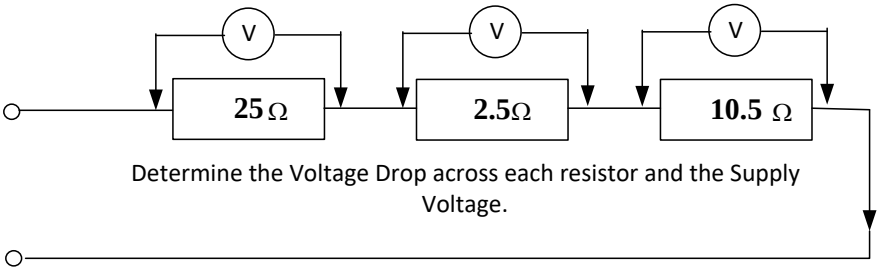
Layout your workings on another page.

1.



Answer = **Amps**

2.

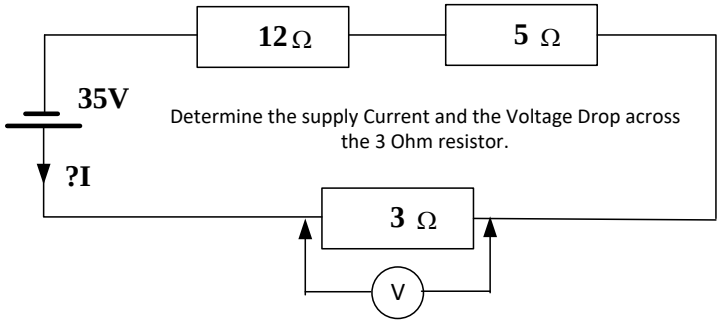


Determine the Voltage Drop across each resistor and the Supply Voltage.

Answers: V_{25} = $V_{2.5}$ = $V_{10.5}$ =

V_S =

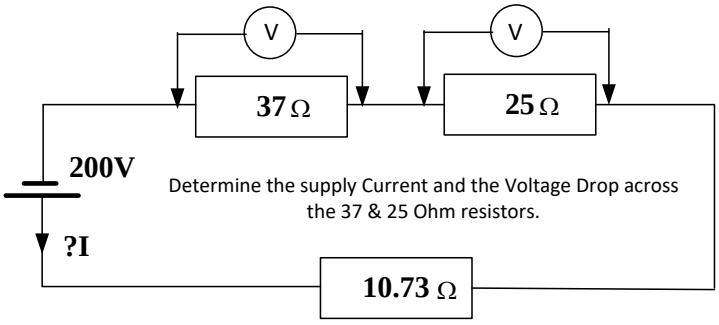
3.



Determine the supply Current and the Voltage Drop across the 3 Ohm resistor.

Answers: I_s = VD_3 =

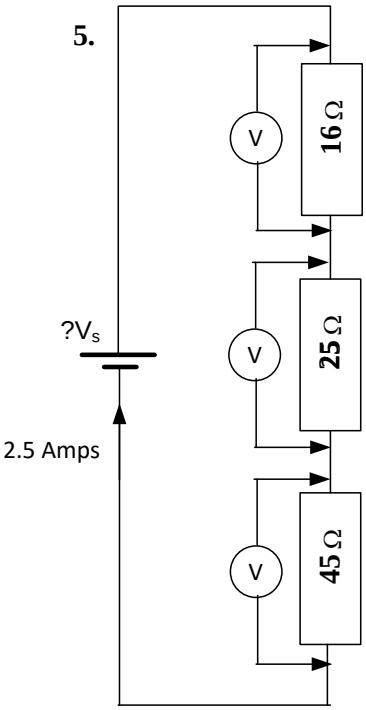
4.



Determine the supply Current and the Voltage Drop across the 37 & 25 Ohm resistors.

Answers: I_s = VD_{37} = VD_{25} =

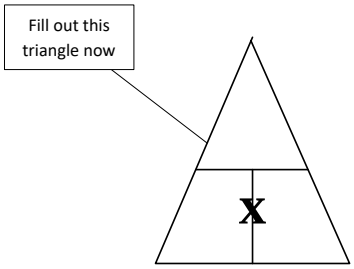
5.



V_S = VD_{25} =

VD_{16} = VD_{45} =

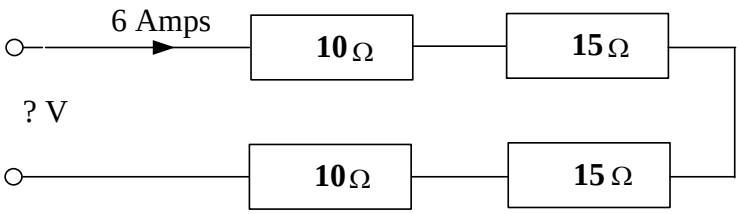
Ohms Law.
Work Sheet 2B
Series calculations.



Determine the unknown value(s).

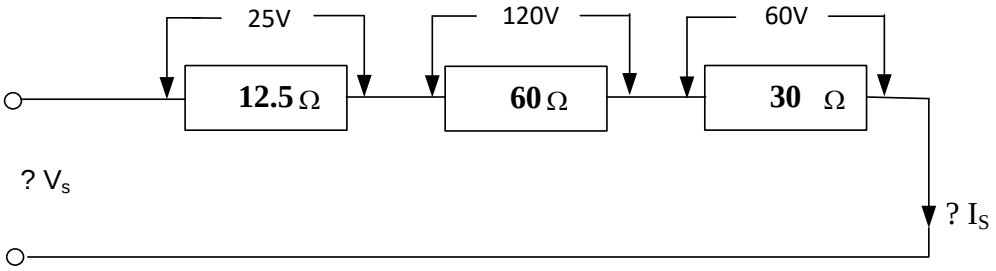
Layout your workings on another page.

1.



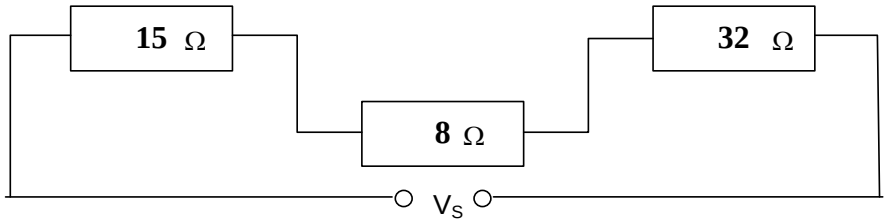
Answer = **Volts**

2.



Answers: V_S = Volts I_S = Amps

3.



Determine the total current flow if the Supply Voltage (V_S) is:

a. 10 Volts

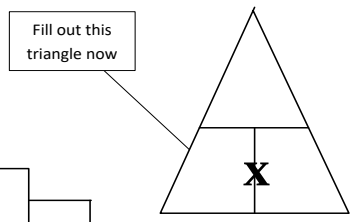
I =

b. 50 Volts. I =

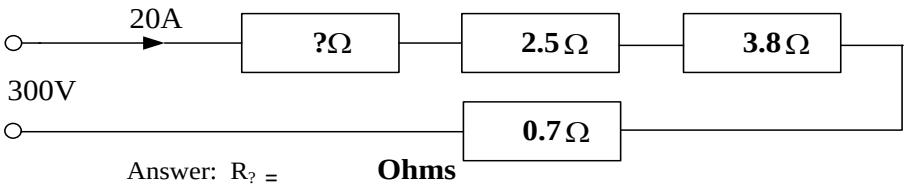
4. Four resistors are connected in series. Each resistor has a resistance of 15 Ohms. If the supply Voltage is 100 Volts, what is the current drawn from the supply and what Voltage Drop would be measured across each resistor. Draw the circuit below (neatly) and show on it your calculated answers.

Determine the ? value(s).
Layout workings on another sheet

Ohms Law.
Work Sheet 3A
Hard Series calculations.

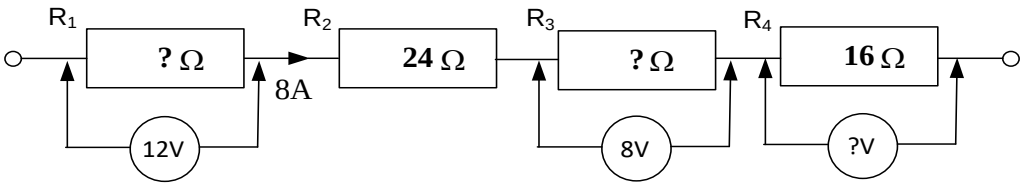


1.



Answer: $R_? =$ **Ohms**

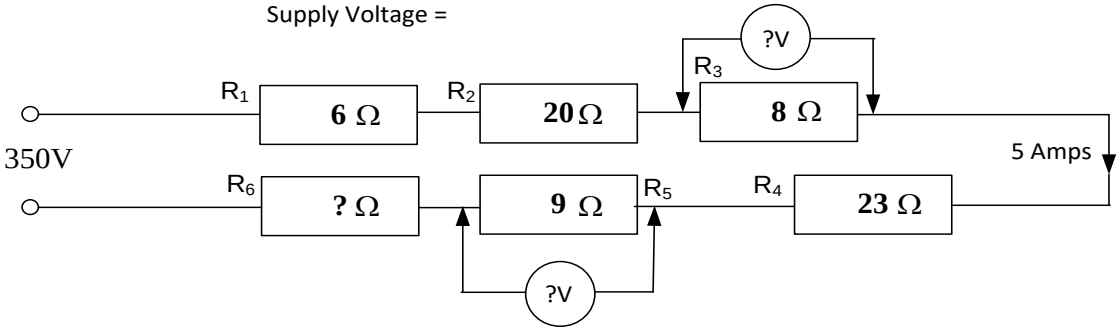
2.



Answers: $R_1 =$ $R_3 =$ $V_{R4} =$

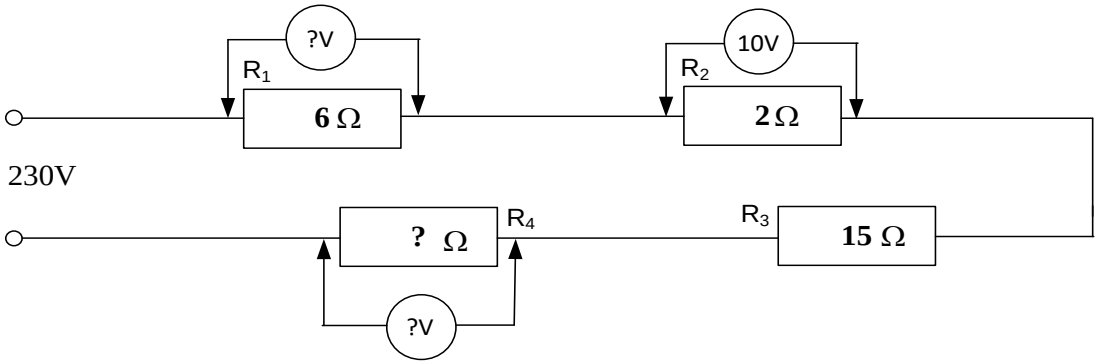
Supply Voltage =

3.



Answers: $R_6 =$ $V_{R3} =$ $V_{R5} =$

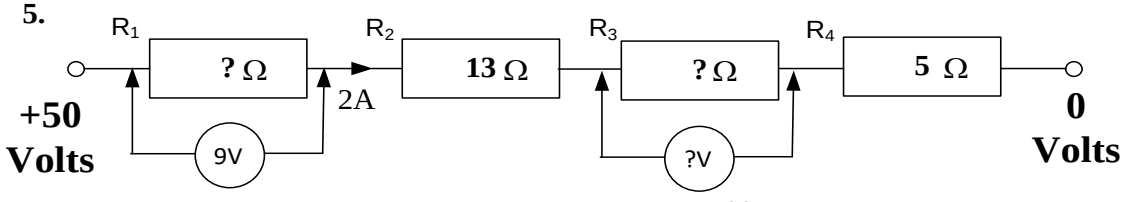
4.



Answers: $V_{R1} =$ $V_{R4} =$ $R_4 =$

Total Current =

5.



Answers: $R_1 =$ $R_3 =$ $V_{R3} =$