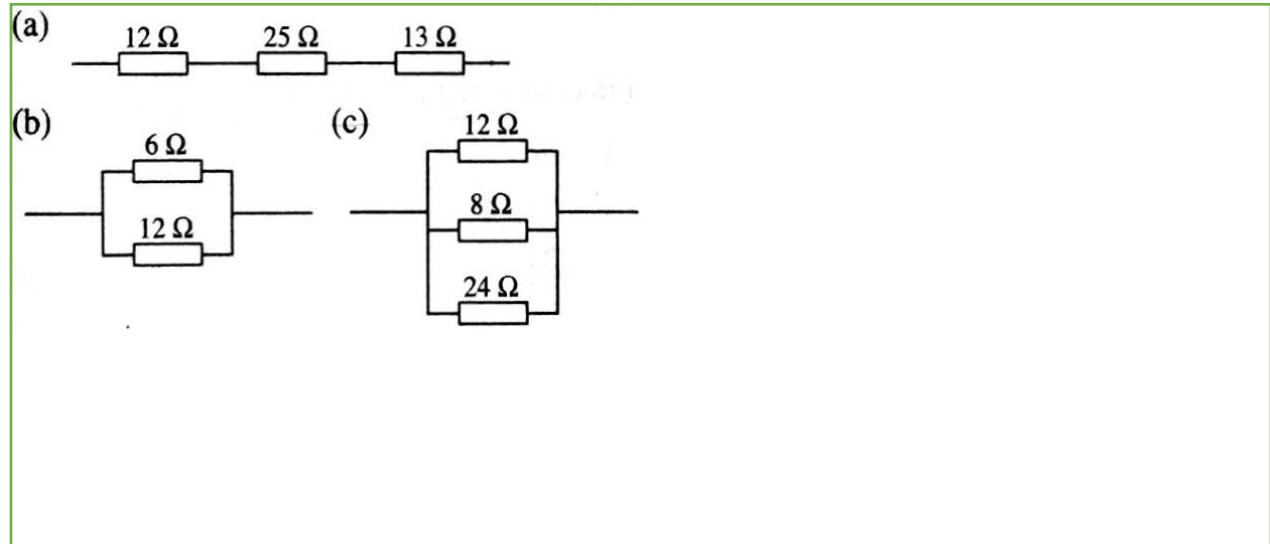


Signature: Name: Marks:

Series and Parallel Circuits

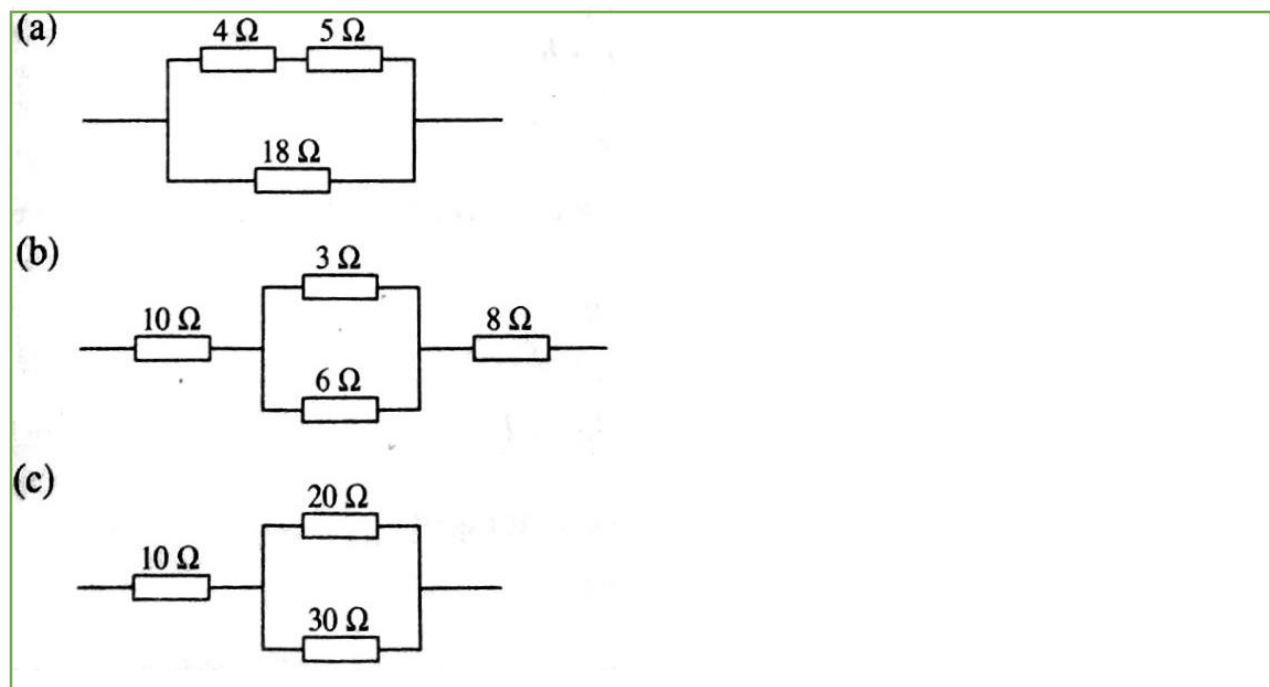
Q1.

Calculate the effective resistance in each of the following arrangement of resistors.



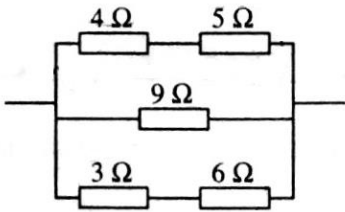
Q2.

Calculate the effective resistance in each of the following arrangement of resistors.

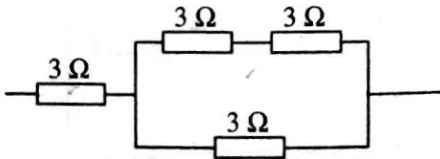


Signature: Name: Marks:

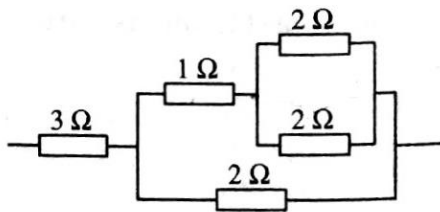
(d)



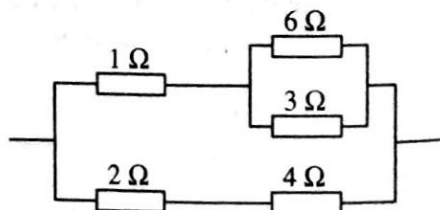
(e)



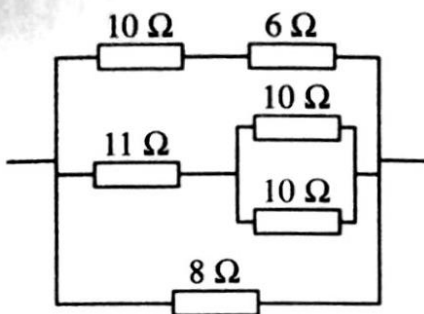
(f)



(g)

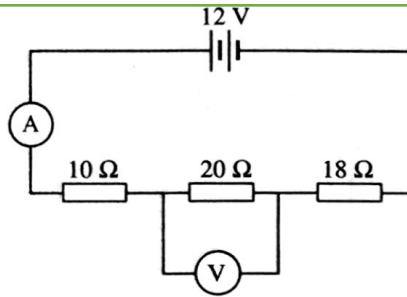


(h)



Signature: Name: Marks: **Q3.**

The figure below shows an electrical circuit with three resistors connected in series.

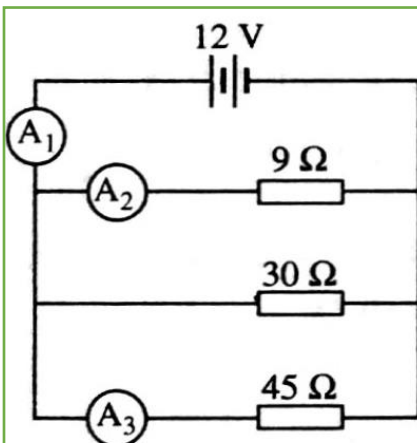


Calculate

- The effective resistance in the circuit
- The reading of the ammeter
- The reading of the voltmeter

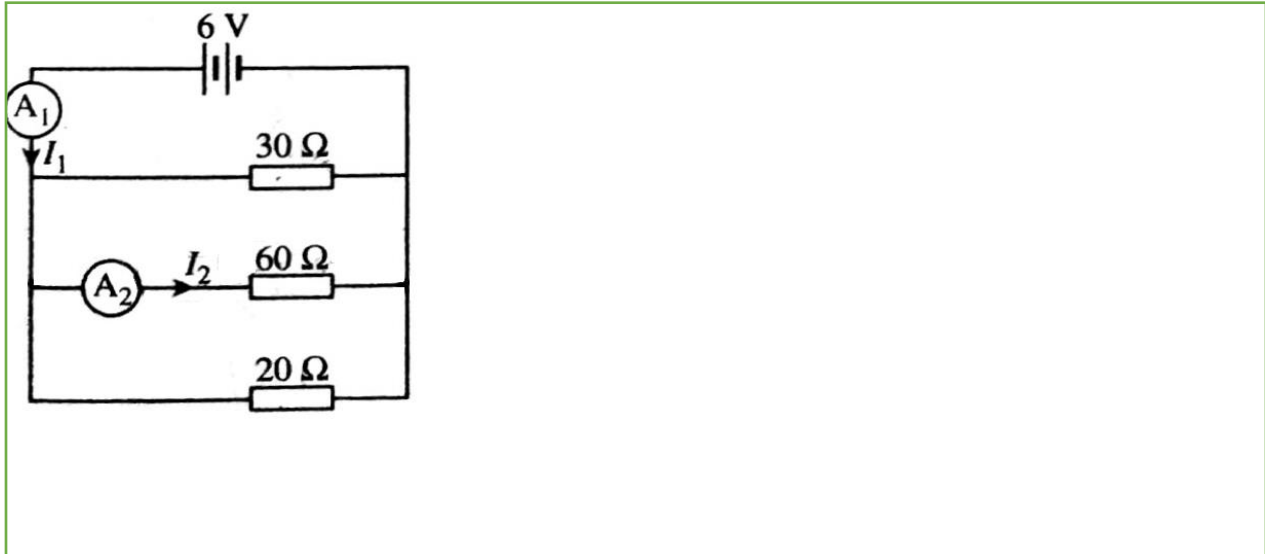
Q4.

The figure below shows three resistors connected in parallel in a circuit. Calculate the readings of ammeters A_1 , A_2 and A_3 respectively.

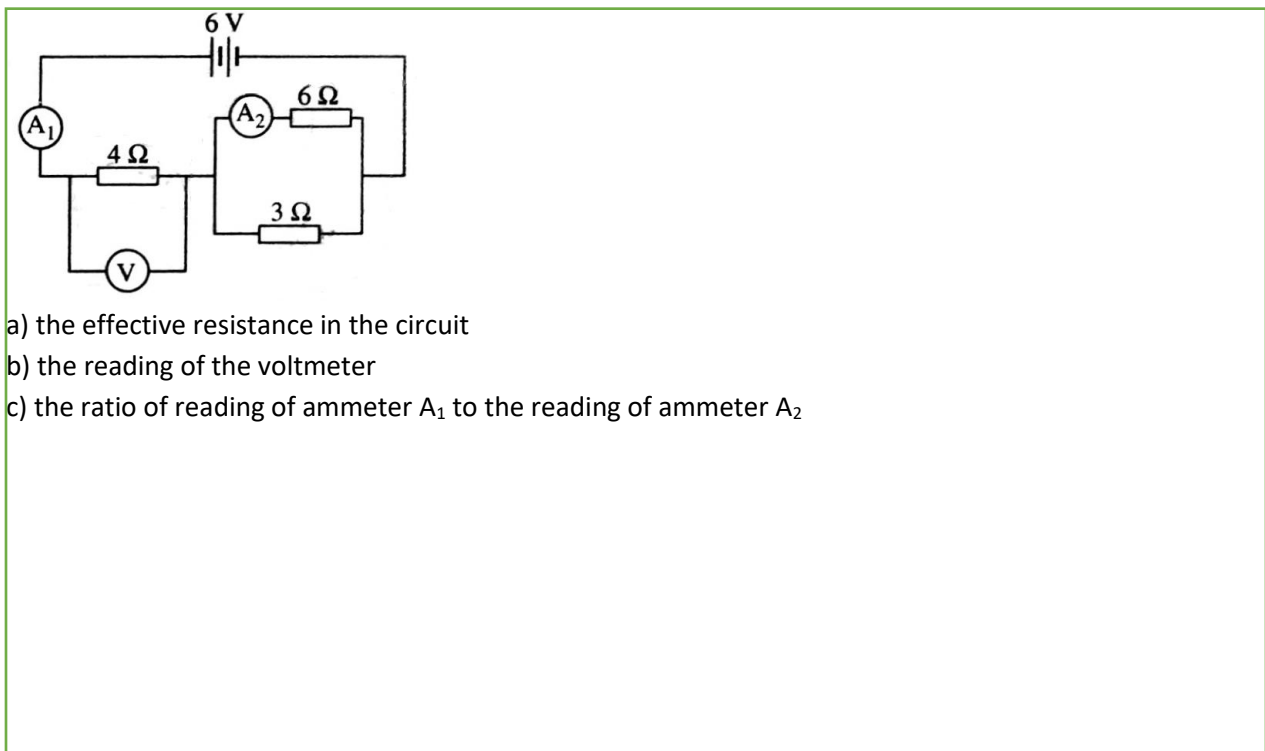


Signature: Name: Marks: **Q5.**

Three resistors are connected in parallel as shows in the figure below. Calculate the ratio of $I_1:I_2$

**Q6.**

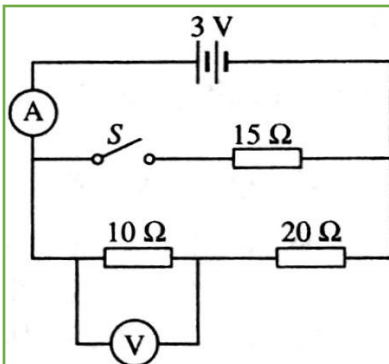
The figure below shows an electrical circuit. Calculate



- the effective resistance in the circuit
- the reading of the voltmeter
- the ratio of reading of ammeter A_1 to the reading of ammeter A_2

Signature: Name: Marks: **Q7.**

The figure below shows an electrical circuit.



a) Switch S is open. Calculate

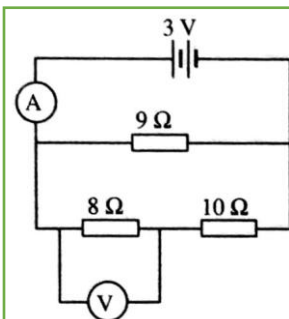
- I. The reading of ammeter
- II. The reading of voltmeter

b) Now, switch S is closed. Calculate

- I. The effective resistance in the circuit
- II. The new reading of ammeter

Q8.

The figure below shows an electrical circuit. Calculate



a) the effective resistance in the circuit

b) the reading of the ammeter

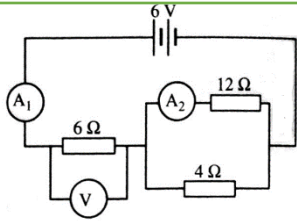
c) the reading of the voltmeter

d) the current flowing across the 8 Ω resistor

e) the power dissipated in the 8 Ω resistor

Signature: Name: Marks: **Q9.**

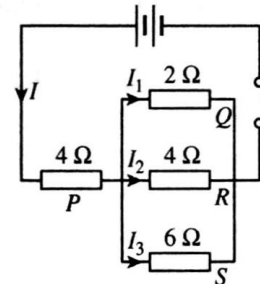
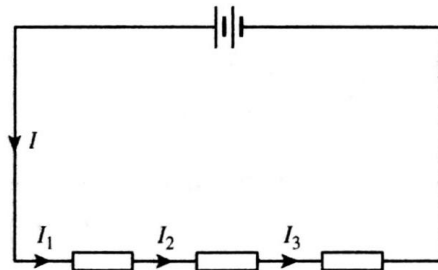
The figure below shows an electrical circuit. Calculate



- the effective resistance in the circuit
- the reading of both ammeters
- the ratio of the power dissipated in the 6 Ω resistor to that in the 12 Ω resistor

Signature: Name: Marks: **Q10.**

The figures below shows two electrical circuits.

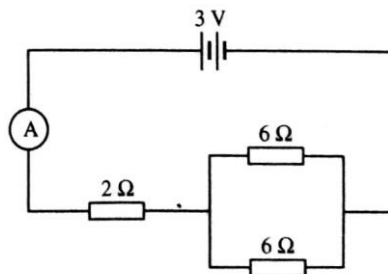


a) Which diagram shows a series circuit?

b) Write the relationship between the current I_1 , I_2 and I_3 for both circuits.

- I. Left diagram
- II. Right diagram

c) The following diagram shows an electrical circuit connected to a battery supply with negligible internal resistance.



- I. What is the effective resistance in the circuit?
- II. Determine the reading of the ammeter.
- III. The $2\ \Omega$ resistor is then removed from the circuit and replaced by a connecting wire. What will happen to the reading of the ammeter?