

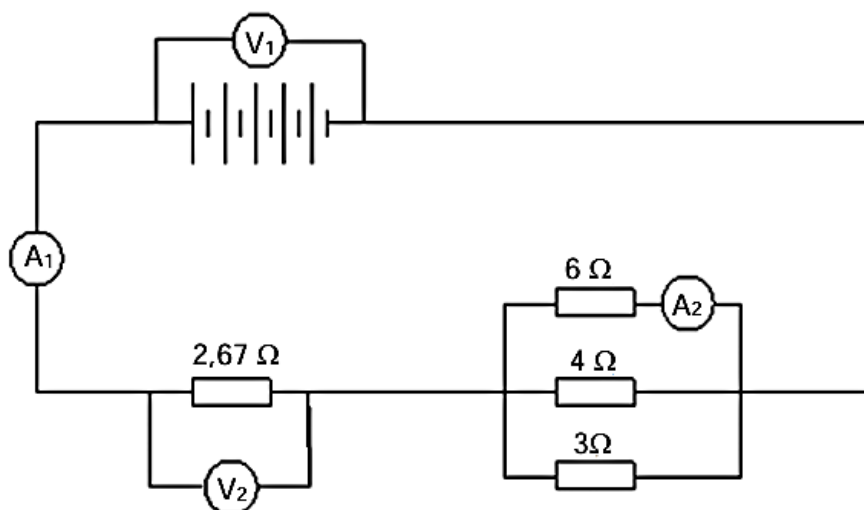
Electric Circuits: Exam Revision Tracker

Attempt #1		Attempt #2		Attempt #3		Attempt #4		Attempt #5	
Total	Score	Total	Score	Total	Score	Total	Score	Total	Score
11		17		13		11		13	
Percentage =		Percentage =		Percentage =		Percentage =		Percentage =	

Electric Circuits: Attempt #1

Total = 11 Marks

In the circuit diagram below, each cell has a voltage of 1,5 V. Use the diagram to answer the questions that follow.



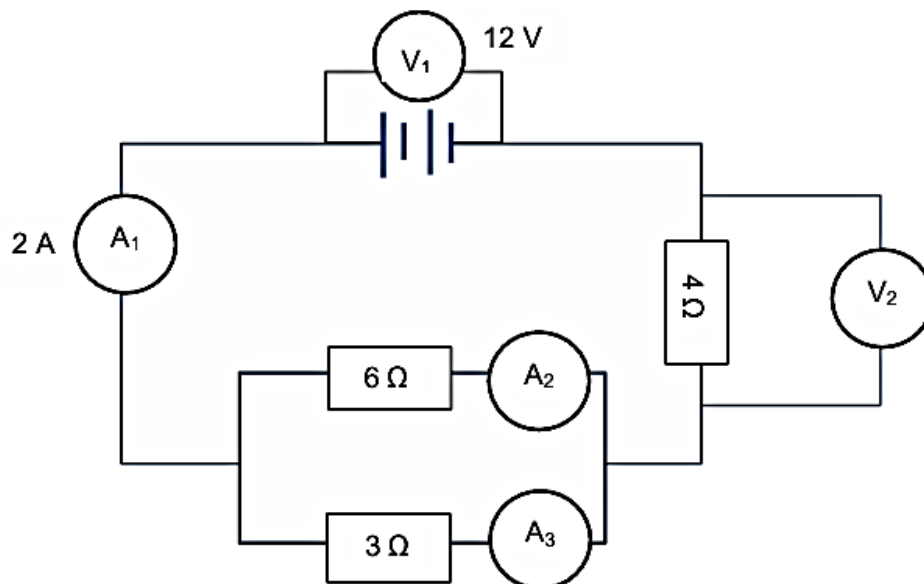
1. What is the reading on V_1 ? (1)
2. Calculate the following:
 - 2.1 Total resistance of the circuit (3)
 - 2.2 Reading on A_1 (2)
 - 2.3 The reading on V_2 (2)
3. Determine the magnitude of the charge that flows through A_1 in 6 minutes. (3)

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Electric Circuits: Attempt #2 ⚡

Total = 17 Marks

In the circuit diagram below the reading on voltmeter V_1 is 12 V and the reading on ammeter A_1 is 2 A.



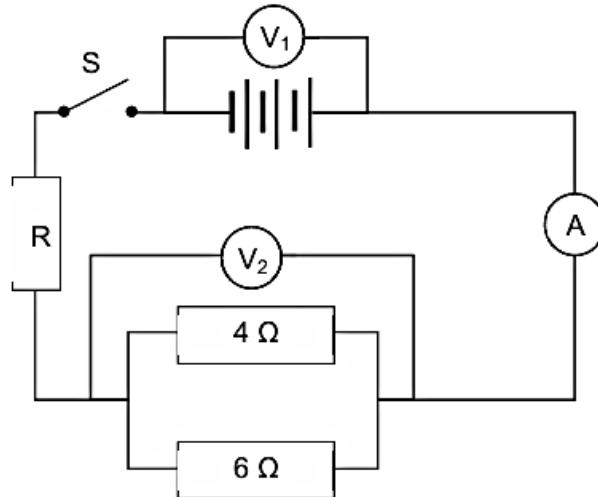
1. Calculate the:
 - 1.1 Total resistance of the circuit (4)
 - 1.2 Reading on V_2 (3)
 - 1.3 Reading on A_2 (3)
 - 1.4 Amount of charge that flows through ammeter A_1 in 120 s (3)
2. How will the reading on ammeter A_1 be affected if the $6\ \Omega$ resistor is removed from the circuit?
Write down only INCREASE, DECREASE or REMAIN THE SAME. (1)
3. Explain the answer to QUESTION 11.2 WITHOUT any calculations. (3)

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Electric Circuits: Attempt #3 ⚡

Total = 5 Marks

In the circuit diagram below, the resistance of the battery, ammeter and connecting wires are negligible.



1. Explain the meaning of the following:
A current of 5 A (2)
2. Calculate the effective resistance of the parallel resistors. (3)
3. Which one of the voltmeters, **V₁** or **V₂**, will show a reading if the switch is open? (1)

Switch **S** is now CLOSED.

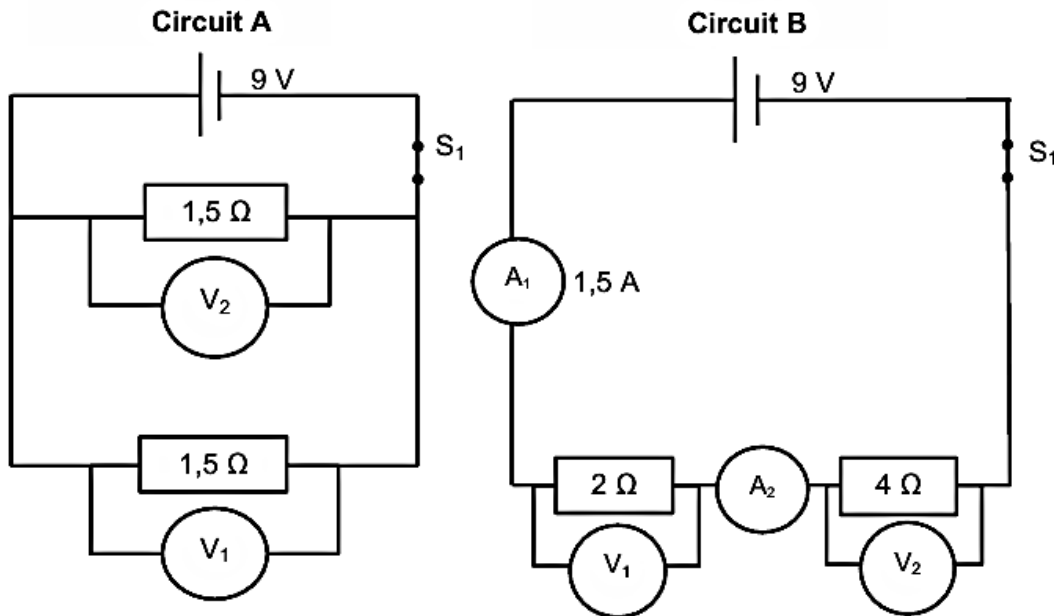
4. How does the reading on voltmeter **V₂** compare to that on voltmeter **V₁**?
Choose from HIGHER THAN, SMALLER THAN or EQUAL TO. (1)
5. Calculate the current in the circuit if 0,3 C passes through the ammeter in 2 s. (3)
6. The potential difference across resistor R is 5 V when a charge of 0,3 C flows through it. Calculate the energy transferred in resistor R. (3)

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Electric Circuits: Attempt #4 ⚡

Total = 11 Marks

Refer to Circuits A and B below and answer the questions that follow.



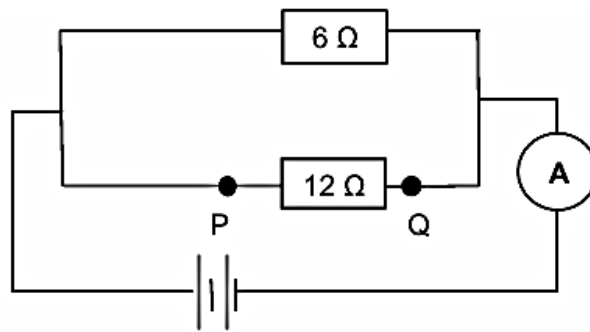
1. Define the term *emf*. (2)
2. Calculate the total resistance of Circuit A. (2)
3. Consider Circuit B.
 - 3.1 Write down the reading on A_2 . (1)
 - 3.2 Calculate the reading on V_1 . (3)
4. If a third resistor ($1,5\ \Omega$) is placed in parallel with the existing resistors in Circuit A, would the total current in the circuit INCREASE, DECREASE or REMAIN THE SAME? Explain the answer. (3)



Electric Circuits: Attempt #5 ⚡

Total = 13 Marks

1. Define the term *potential difference*. (2)
2. In the electric circuit given below, the ammeter and connecting wires have negligible resistance and the battery have no internal resistance.



- 2.1 Calculate the total resistance of the circuit. (3)
- 2.2 Calculate the amount of charge that flows through the $6\ \Omega$ in 40 seconds if the reading on the ammeter is $0,9\text{ A}$. (5)
- 2.3 How does potential difference across the $6\ \Omega$ resistor and potential difference across the $12\ \Omega$ resistor compare?
Write down only HIGHER ACROSS $6\ \Omega$, LOWER ACROSS $6\ \Omega$ or THE SAME AS (1)
A low resistance copper wire is now connected between points P and Q.
- 2.4 Will the reading on the ammeter INCREASE, BECOME ZERO or DECREASE? (2)
Give a reason for your answer.

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