

GCSE Physics (9 – 1)

Circuits – missing values questions

Name:

Group:

Instructions

- Read each question carefully before you begin to answer it.
- Use black ink or black ball-point pen for your answers.
- Fill in the boxes at the top of this page with your name and group.
- Attempt to answer every question in the booklet.
- Answer the questions in the spaces provided – there may be more space than you need in some answer spaces.
- Calculators may be used in this booklet.
- For any calculations, you must show all your working.
- Any and all drawings or graphs should be completed in pencil.



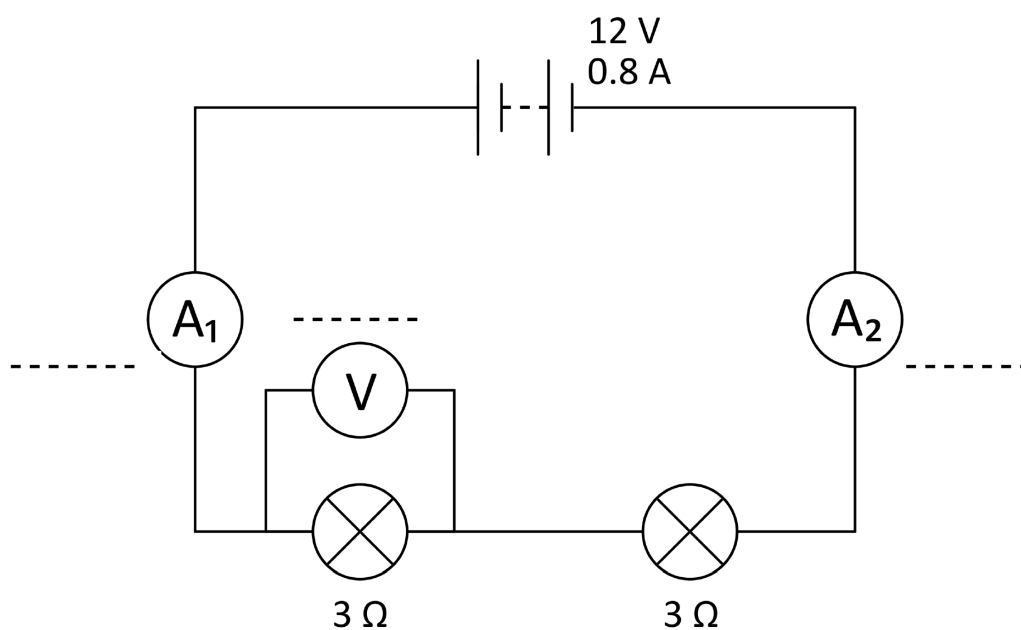
Information

- The maximum mark for this paper is 68.
- The marks for each question are shown in brackets.
- Please be aware that good English and clear presentation are required in your answers.

For markers use	
Question	Mark
1	/13
2	/13
3	/18
4	/11
5	/7
6	/6
Total	/68
%	
Grade	

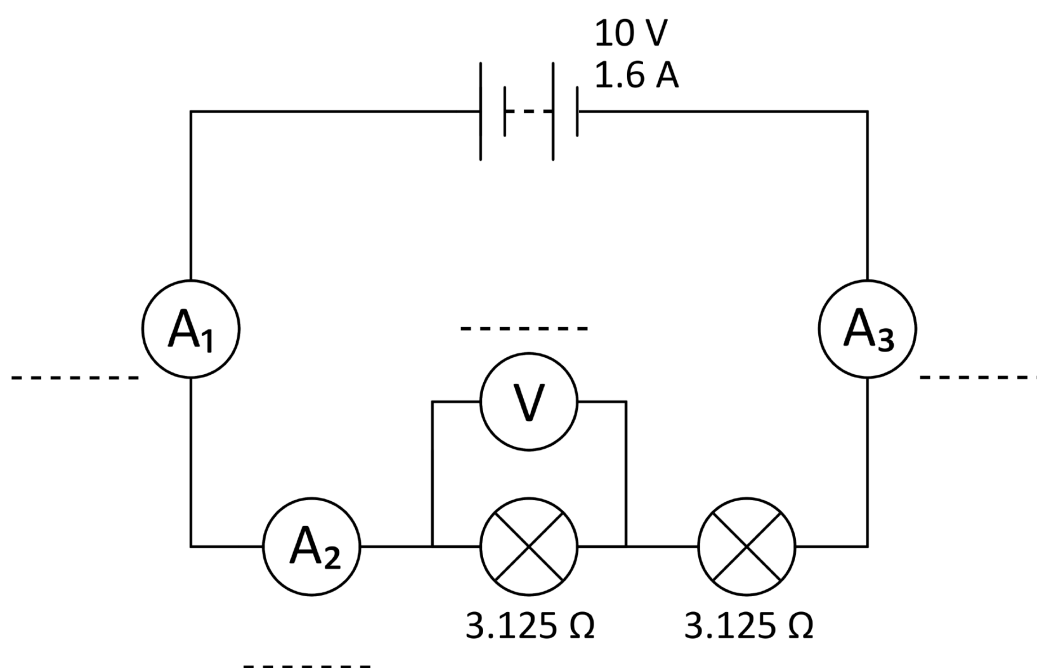


1. A student needed to complete a number of experiments involving circuits.
- a. The student set up the following series circuit. Complete the missing values in the figure below.



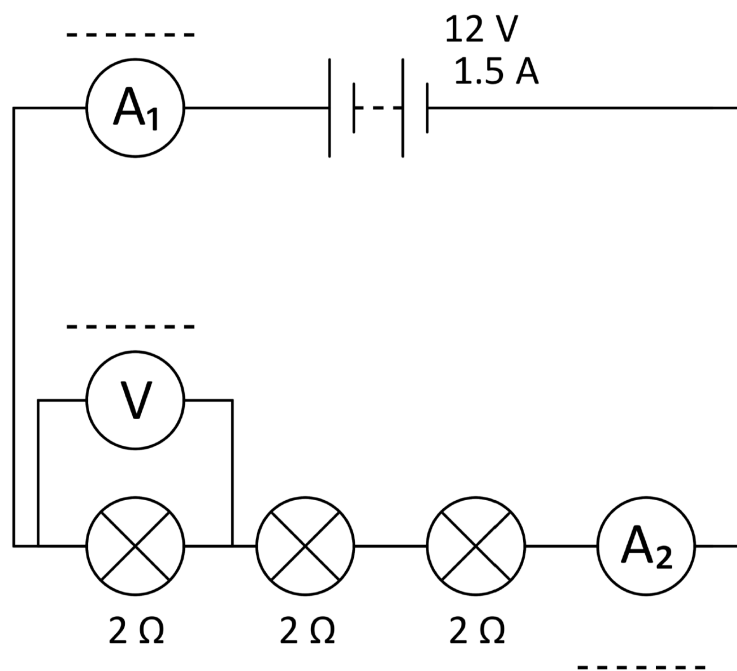
(3 marks)

- b. The student set up a different series circuit as shown below. Complete the missing values in the figure below.



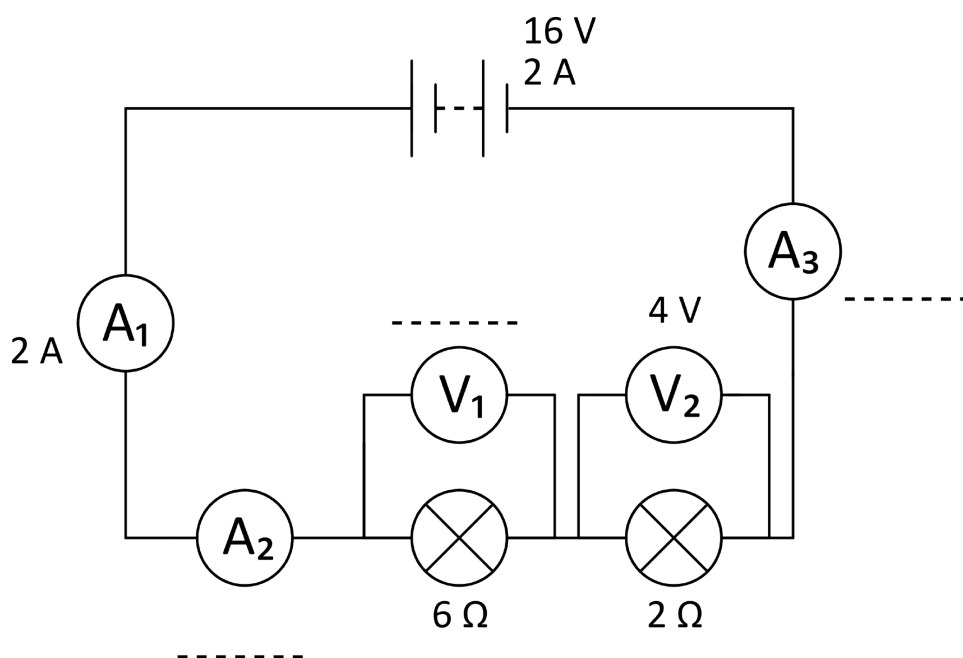
(4 marks)

c. A different student set up the following series circuit. Complete the missing values in the figure below.



(3 marks)

d. The student then set up the following series circuit. Complete the missing values in the figure below.

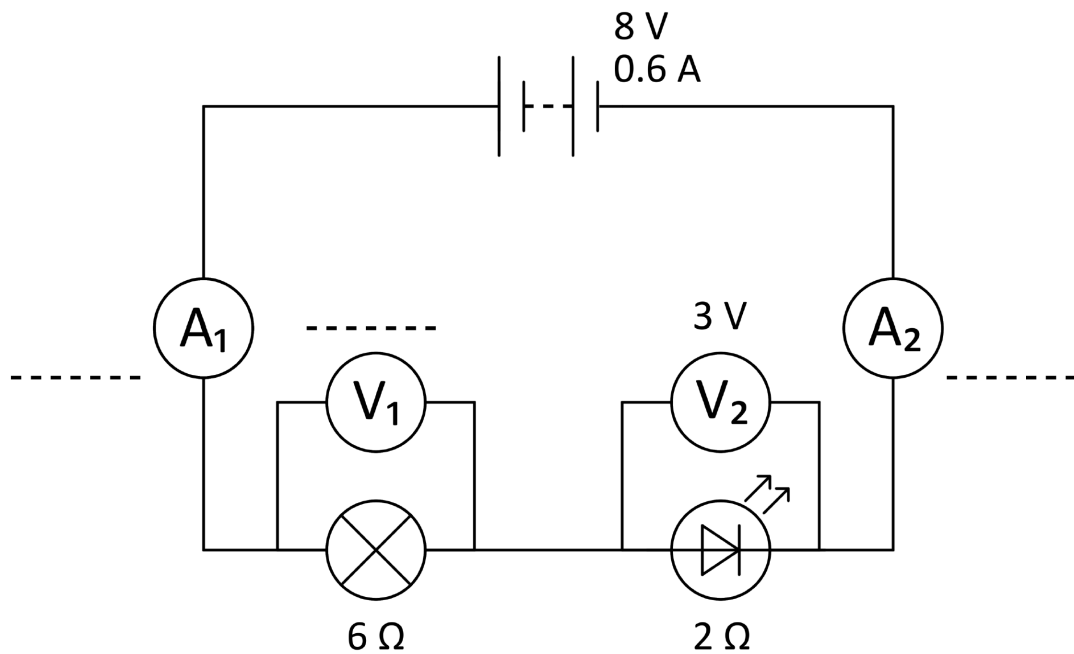


(3 marks)

(Total for Question 1 is 13 marks)

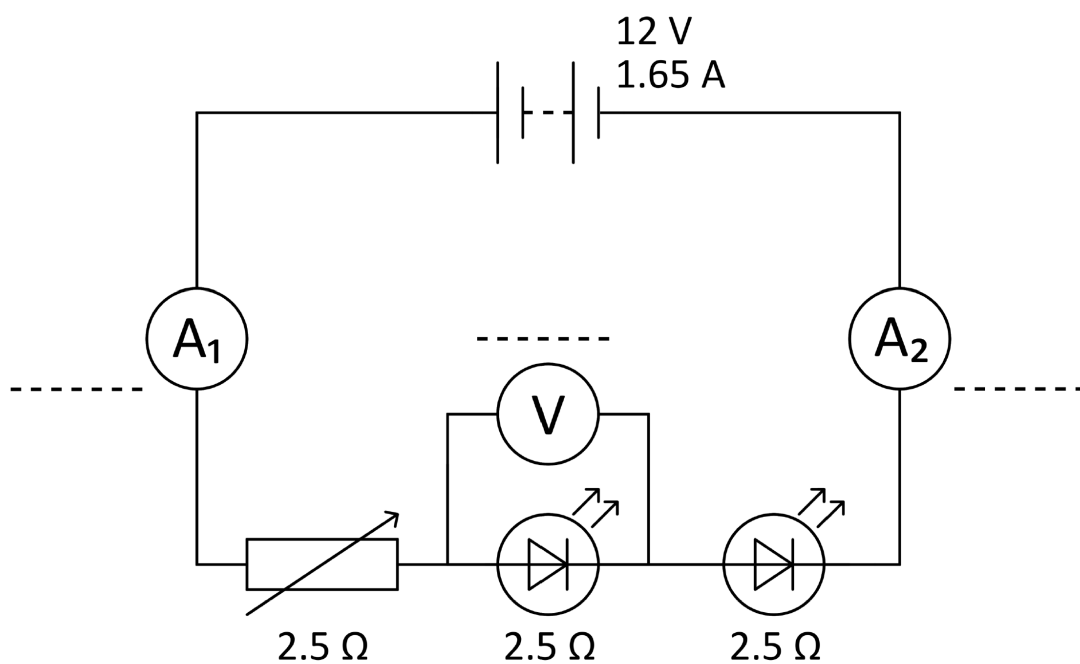
2. The following question is about missing values on series circuits.

a. Complete the missing values in the figure below.



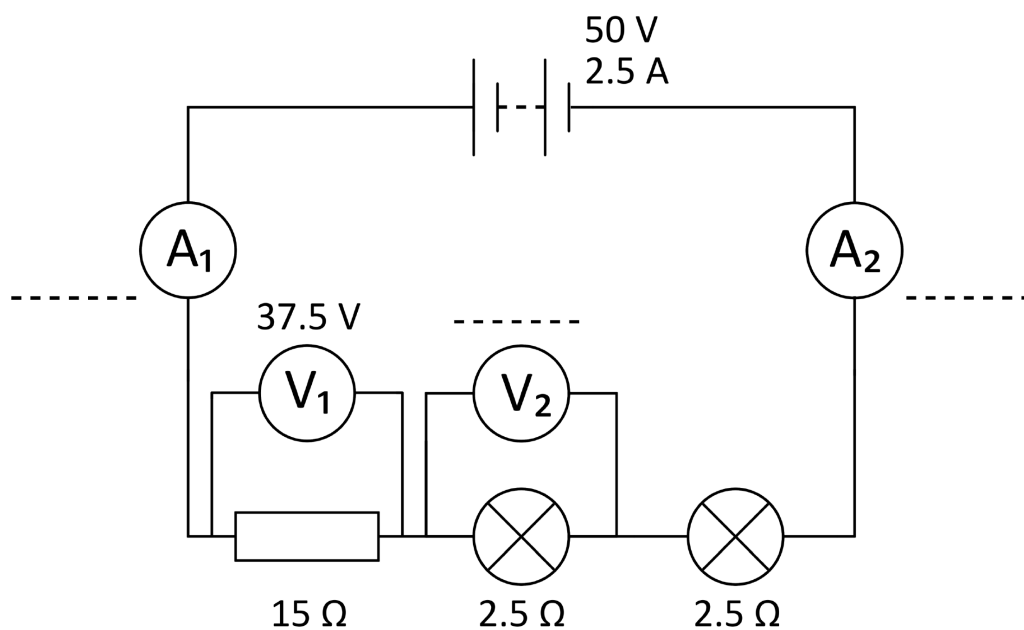
(4 marks)

b. Complete the missing values for the figure of the series circuit below.



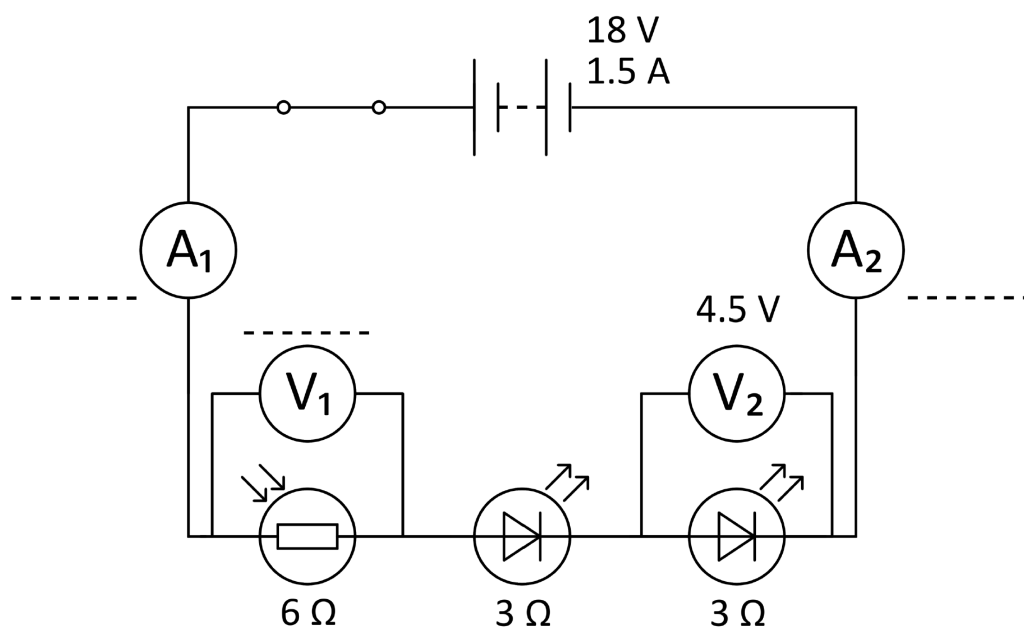
(3 marks)

c. Complete the missing values for the figure of the series circuit below.



(3 marks)

d. Complete the missing values for the figure of the series circuit below.

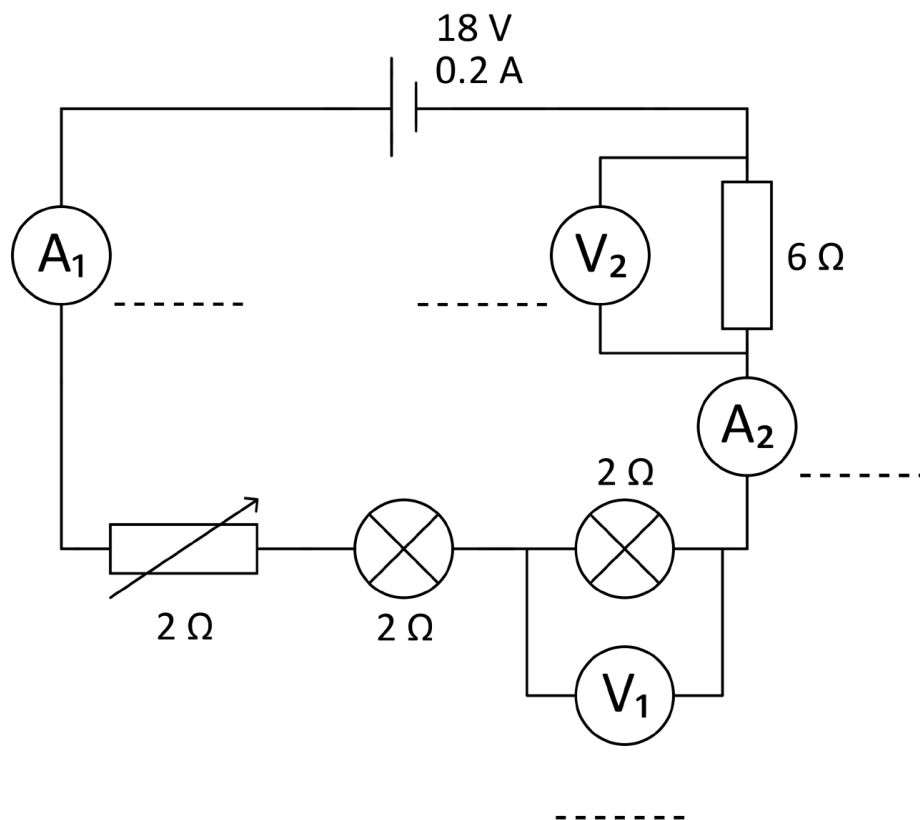


(3 marks)

(Total for Question 2 is 13 marks)

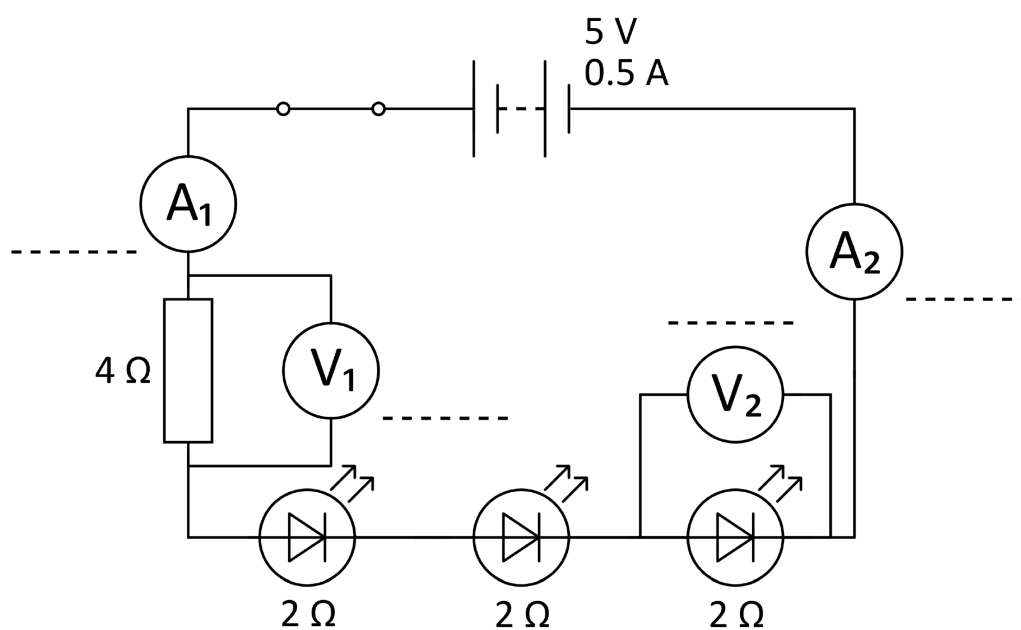
3. The following question is about missing values on series and parallel circuits.

a. Complete the missing values in the figure below.



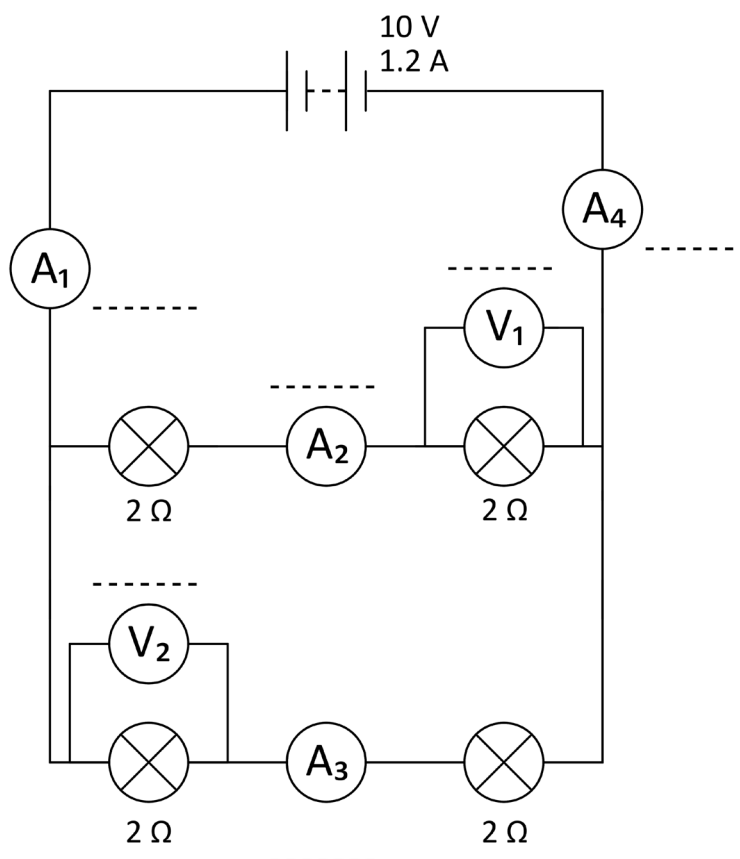
(4 marks)

b. A student set up the following series circuit. Complete the missing values in the figure below.



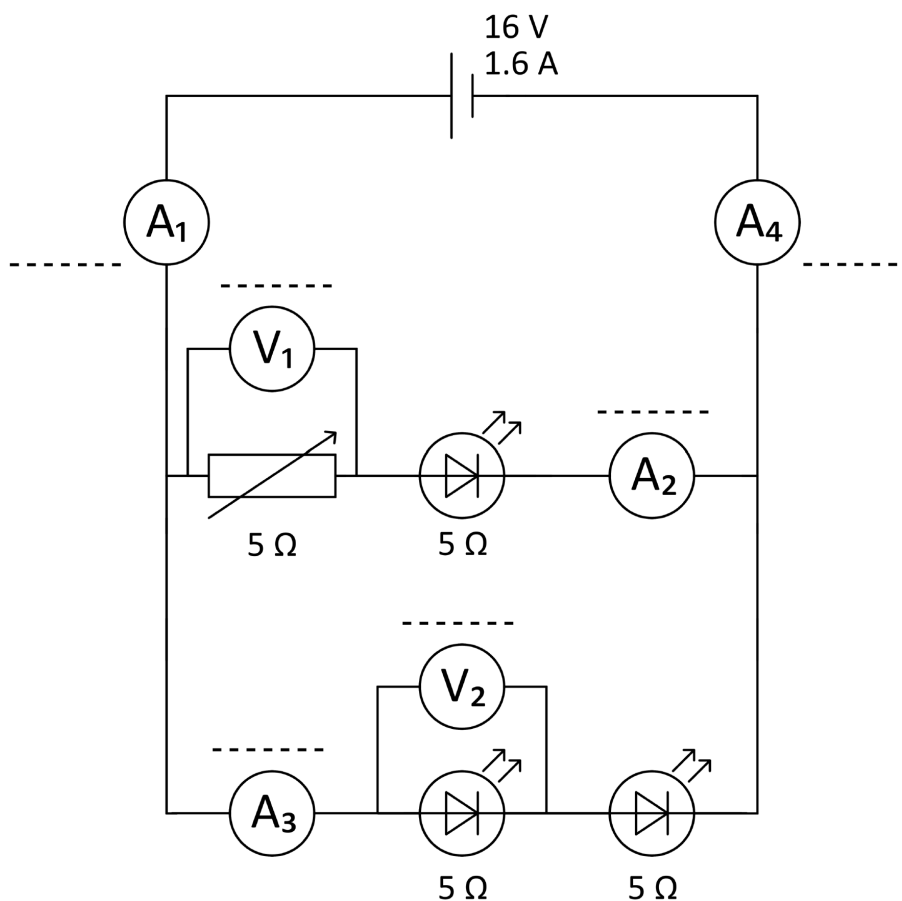
(4 marks)

c. Complete the missing values in the figure below.



(4 marks)

d. Complete the missing values in the figure below.



(6 marks)

(Total for Question 3 is 18 marks)

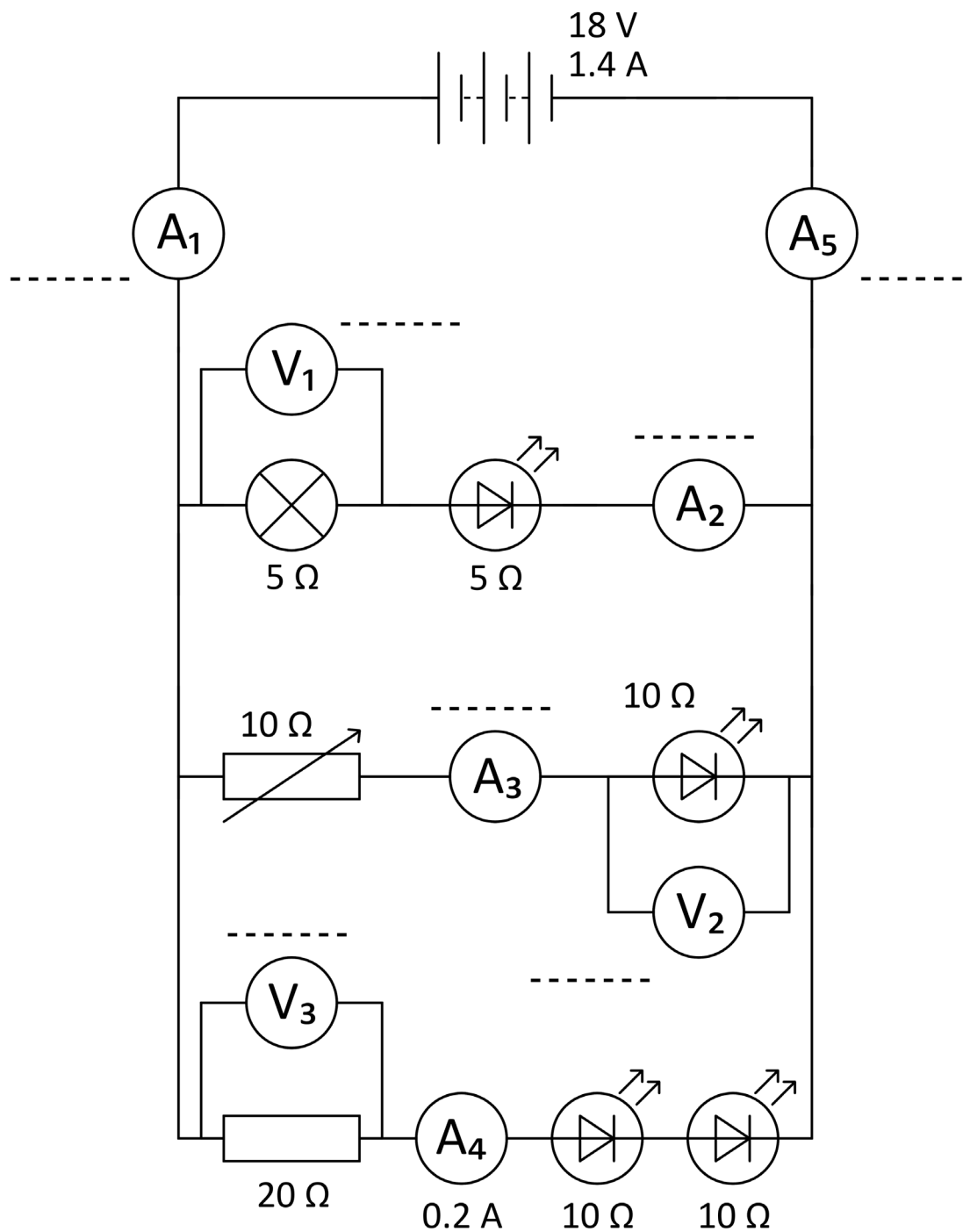
a. Complete the missing values in the figure below.



The circuit diagram shows a 28 V DC voltage source in series with a 2.6 A current source. The circuit is divided into three parallel branches. The top branch contains a 4 Ω resistor, a 2 Ω resistor, and a 1 Ω resistor. The middle branch contains a 2 Ω resistor and a 1 Ω resistor. The bottom branch contains a 2 Ω resistor and a 2 Ω resistor. A switch is connected in series with the bottom branch. Four ammeters (A₁, A₂, A₃, A₄) and three voltmeters (V₁, V₂, V₃) are connected to measure current and voltage across various components.

(Total for Question 4 is 11 marks)

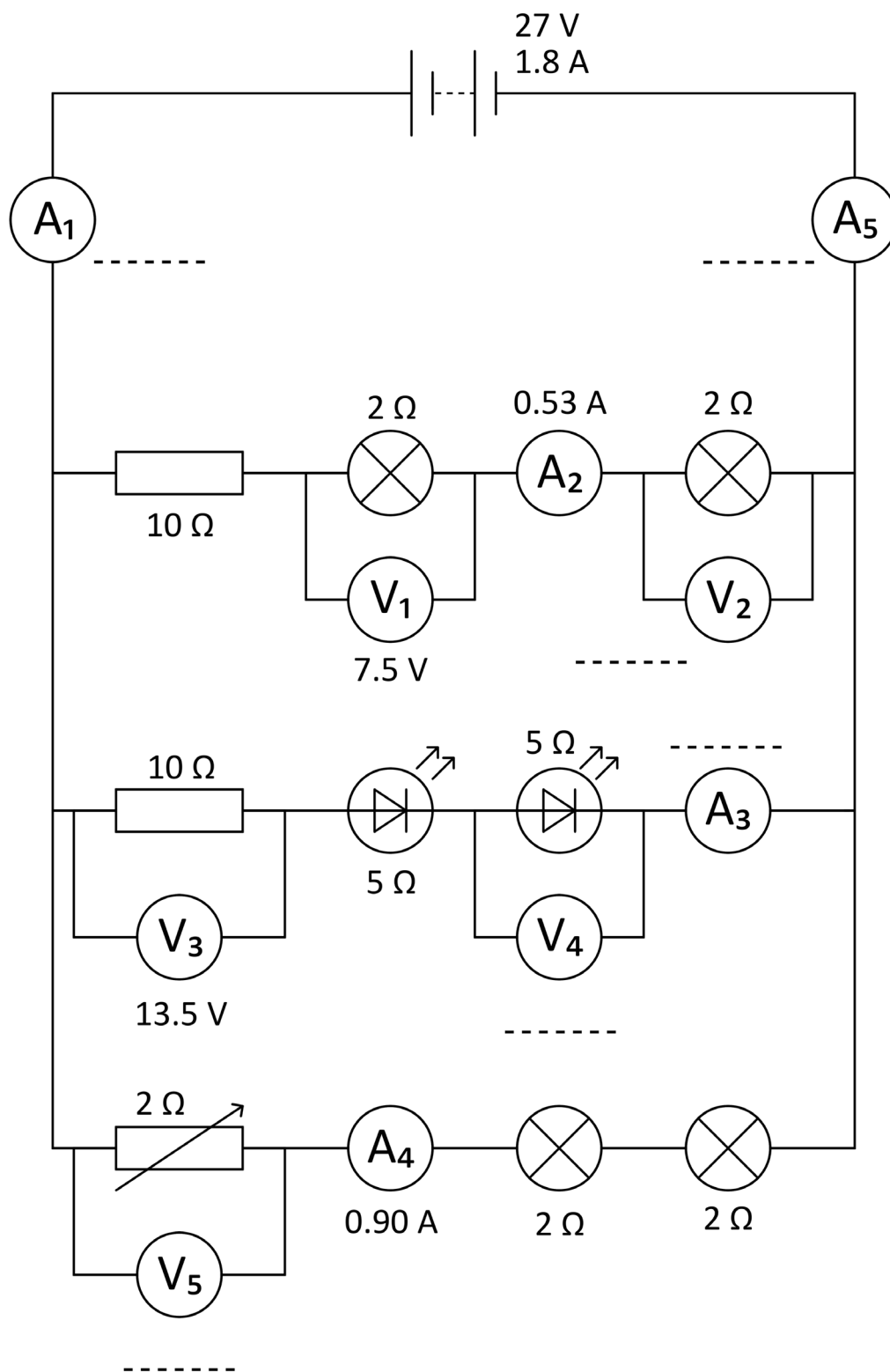
5. A student set up the following parallel circuit. Complete the missing values in the figure below.



(7 marks)

(Total for Question 5 is 7 marks)

6. A student set up the following parallel circuit. Complete the missing values in the figure below.



(6 marks)

(Total for Question 6 is 6 marks)