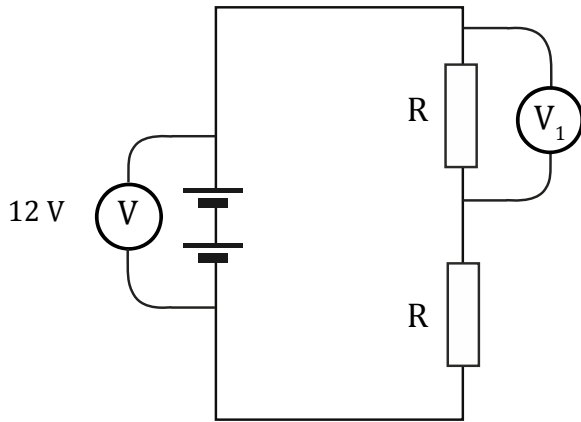
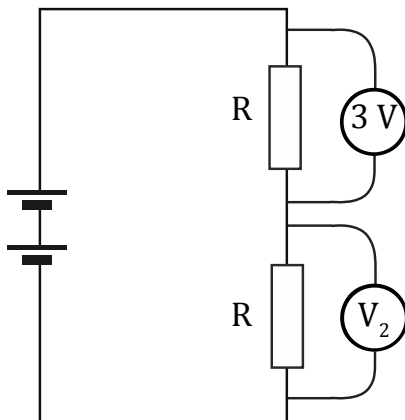


Resistors in series

These circuits consist of two identical resistors connected in series. The batteries in the two circuits are not the same. All the meters in the circuits are voltmeters. The readings on some of the voltmeters are shown. Write down the reading you would expect to see on the other voltmeters.



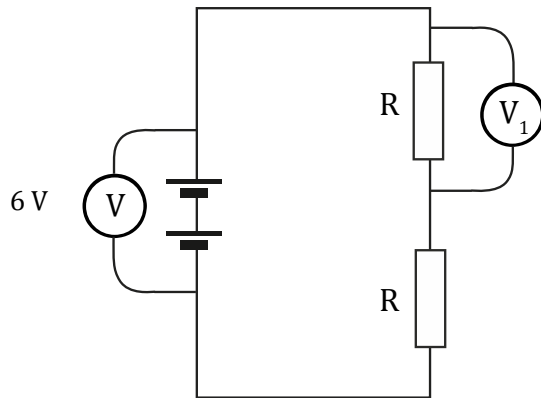
$$V_1 = \text{_____ volt}$$



$$V_2 = \text{_____ volt}$$

Different batteries

In this circuit, a 6 V battery is connected to two identical resistors in series.



a) What is the reading on voltmeter V_1 ?

Tick ONE box:

- 6 V
- between 6 V and 3 V
- 3 V
- between 3 V and zero
- Zero

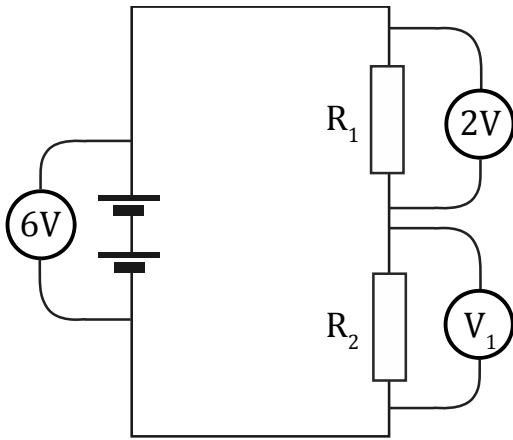
b) How would you explain this?

Tick ONE box:

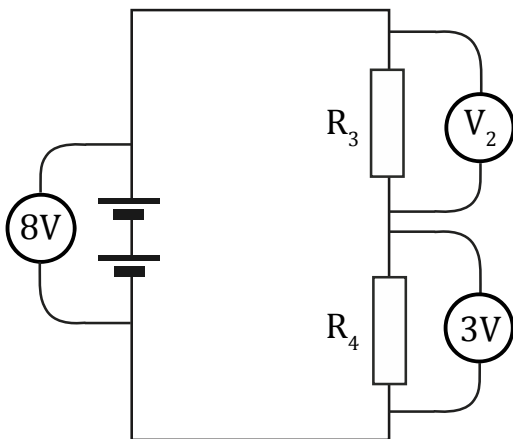
- The battery voltage is shared, half across each resistor.
- The battery voltage is shared, with the larger share across the first resistor the current comes to.
- The battery voltage is shared, with the larger share across the resistor connected to the positive terminal of the battery.
- The potential difference across each resistor must be equal to the battery voltage.

Different Resistors

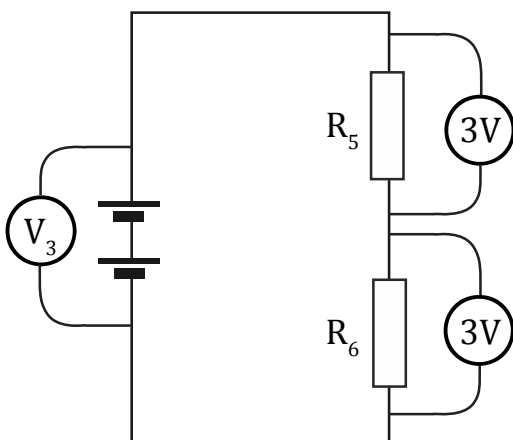
Each of these circuits consists of a battery connected to two resistors in series. The two resistors in each circuit are different. All the meters in the circuits are voltmeters. The readings on some of the voltmeters are shown. Write down the reading you would expect to see on the other voltmeters.



$$V_1 = \text{_____ volt}$$



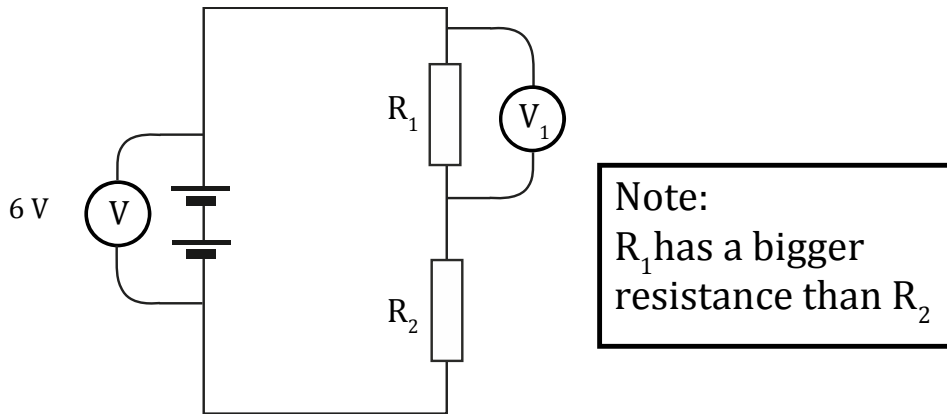
$$V_2 = \text{_____ volt}$$



$$V_3 = \text{_____ volt}$$

Bigger resistance

In this circuit, a 6 V battery is connected to two resistors in series. The resistance of R_1 is **bigger** than the resistance of R_2 .



a) What is the reading on voltmeter V_1 ?

Tick ONE box:

- 6 V
- between 6 V and 3 V
- 3 V
- between 3 V and zero

b) How would you explain this?

Tick ONE box:

- The battery voltage is shared, half across each resistor.
- The battery voltage is shared, with the larger share across the first resistor the current comes to.
- The battery voltage is shared, with the larger share across the smaller resistor.
- The battery voltage is shared, with the larger share across the larger resistor.
- The potential difference across each resistor must be equal to the battery voltage.