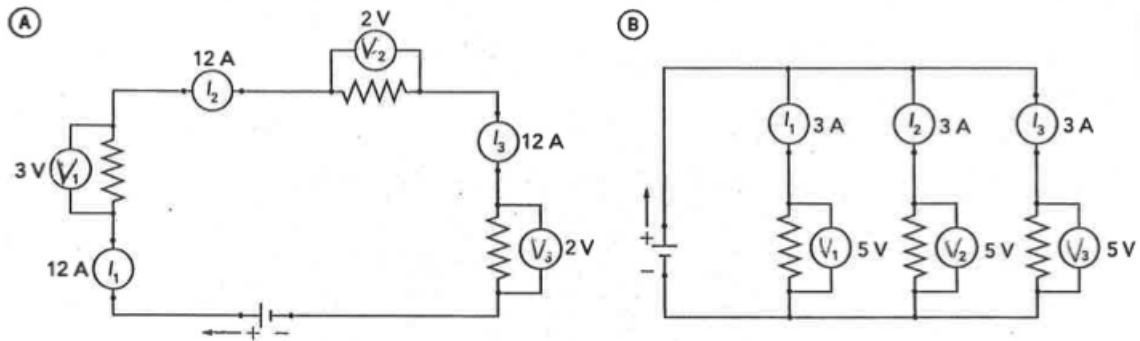# Applied Science and Technology

Kirchhoff's Laws of current and voltage distribution

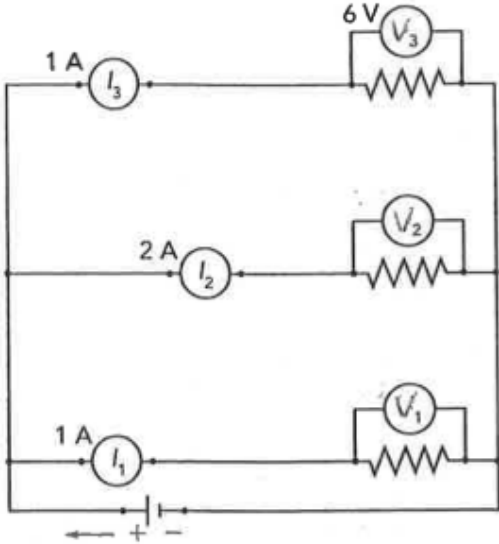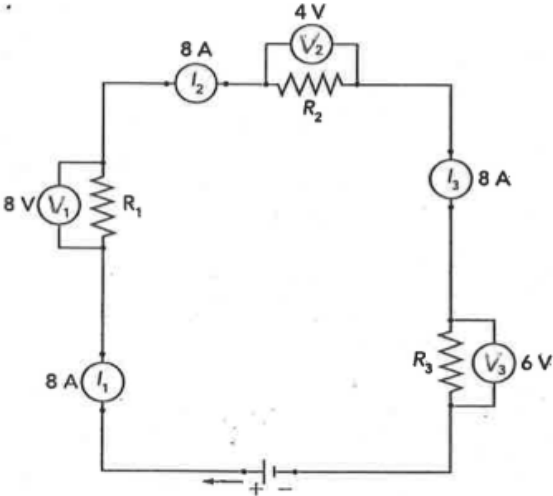Question #1

Refer to the electrical circuits below.

a) What is the total current intensity in circuit A?

b) What is the total current intensity in circuit B?

c) What is the total voltage in circuit A?

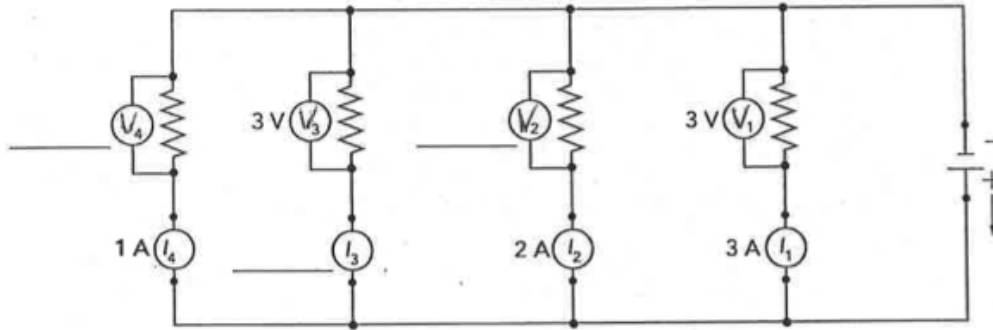d) What is the total voltage in circuit B?

Question #2

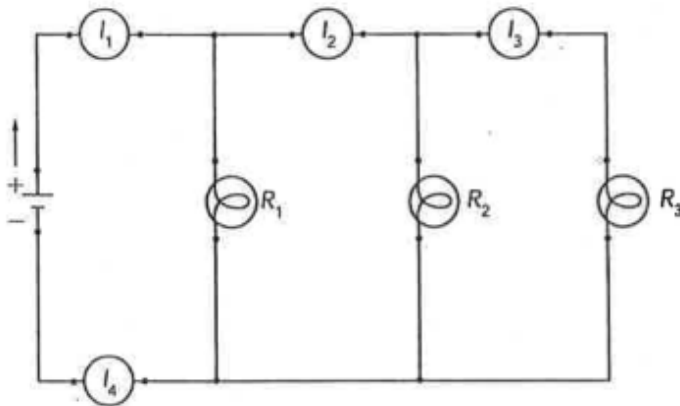Calculate the equivalent resistance of the circuits pictured below.

Question #3

Complete the data in the following diagram in which the total current intensity is 8 amps.
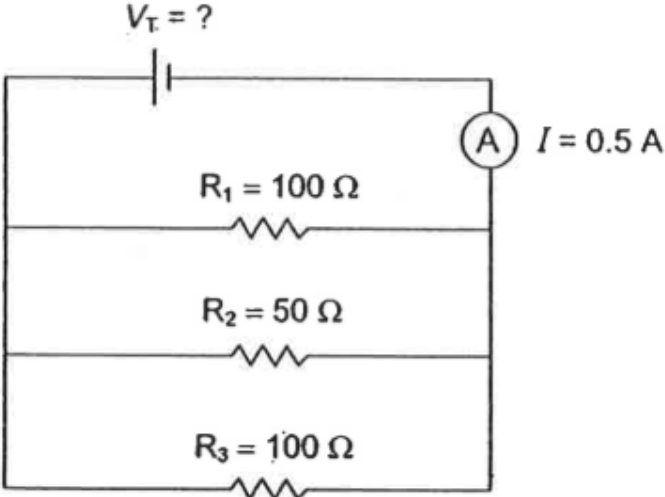

Question #4

The schematic diagram below represents a circuit consisting of three light bulbs, a power source, and four ammeters.

The resistance of each light bulb is 30Ω and the voltage at the power source is 60 volts. What is the reading on each ammeter?

Question #5

Refer to the diagram below and calculate the potential difference across the terminals of the power supply.

$V_T = ?$

A $I = 0.5\,A$

$R_1 = 100\ \Omega$

$R_2 = 50\ \Omega$

$R_3 = 100\ \Omega$

Question #6

Refer to the diagram below and calculate the current intensity going through the 100-Ω resistor.

$V_T = 12\,V$

R_1 $100\ \Omega$ R_2 $150\ \Omega$ R_3 $200\ \Omega$