Series Circuits

1. Calculate the current at the given points in each series circuit.

**(a)**

0.4 A

I1

I2

**(b)**

6.5 A

I1

I2

M

1. Calculate the voltage across the resistor in each of these series circuits.

**(a)**

1.5 V

0.6 V

V

**(b)**

12 V

M

V

8.5 V

1. In an experiment, two *identical* resistors are connected to a 9.0 V power supply. Calculate the voltage across each resistor.

9.0 V

V1

V2

1. Calculate the missing currents and voltages in these series circuits.

|  |  |  |
| --- | --- | --- |
| V  1.6 mA  1 V  2 V  I3  I2  I1  **(a)** |  | I1 = |
| I2 = |
| I3 = |
| Vs = |

|  |  |  |
| --- | --- | --- |
| **(b)** | V  0.5 A  1.2 V  I3  I2  I1  0.45 V | I1 = |
| I2 = |
| I3 = |
| Vs = |

**Parallel Circuits**

1. Calculate the current at the given points in each parallel circuit.

**(b)**

1.6 A

I1

0.7 A

I2

**(a)**

0.15 A

I

0.10 A

1. Calculate the voltage across the lamp in each of these parallel circuits.

**(b)**

15 V

**(a)**

2.5 V

1. In an experiment, two *identical* resistors are connected in parallel to a power supply which has 0.58 A drawn from it. Calculate the current through each resistor.

0.58 A

I1

I2

1. Calculate the missing currents and voltages in these parallel circuits.

0.45 A

I1

I2

10 Ω

10 Ω

10 Ω

1.5 V

I3

I5

I4

**(b)**

V1

V2

V3

**(a)**

12 V

V1

V2

I1

1.5 A

0.5 A

I3

I2

I4

I5