**PHYSICS 1.3 ANSWERS**

**WORKSHEET TWO CIRCUITS**

1. (a) (i) Components may be in any order. Voltmeter on either bulb.

. . .

V

(ii) Switch must control both bulbs. Voltmeter on either bulb.

V

. . .

(b) The bulbs in the parallel circuit would be brighter than in the series circuit. In parallel each bulb has a full 9V, in series each bulb has only 4.5V.

(c) The parallel circuit.

Reasons: If one bulb ‘blew’ the other would keep glowing AND the bulbs would be brighter (not sharing voltage).

2. (a) Current is the rate of movement of charge (electrons) through a circuit.

(b) Voltage (or potential difference) is a measure of the energy lost between two points in a circuit.

|  |  |  |  |
| --- | --- | --- | --- |
| CIRCUIT A | | CIRCUIT B | |
| Meter | Reading | Meter | Reading |
| A1 | ***0.2 A*** | A1 | ***0.5 A*** |
| A2 | 0.2 A | A2 | ***0.5 A*** |
| V1 | ***5 V*** | A3 | 1.0 A |
| V2 | ***5 V*** | V1 | ***10 V*** |
|  |  | V2 | ***10 V*** |

3.