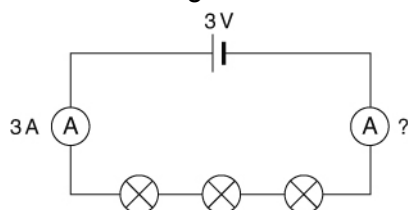


On your answer sheet, write in or circle the correct letter for each question.

7Ja

- Which of these items is *not* needed to make a working circuit?
 - connecting wires
 - a switch
 - a component such as a bulb
 - a cell
- Which instrument would you use to measure current?
 - an ammeter
 - a cell
 - a motor
 - a voltmeter
- One ammeter in this circuit is reading 3 A. What is the reading on the other ammeter?



- 1 A
 - 2 A
 - 3 A
 - 4 A
- A light bulb comes on when a switch is pressed. Which statement is the best explanation for why this happens?
 - When you press the switch you make a gap in the circuit.
 - When you press the switch you close a gap in the circuit.
 - The switch is made of metal.
 - The switch turns all the bulbs on or off at once.

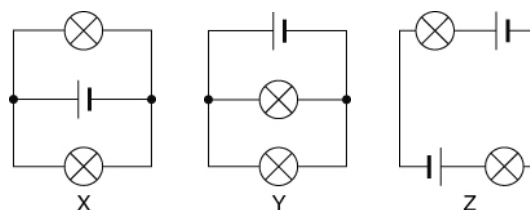
7Jb

- An electric current is:
 - a source of energy
 - a kind of liquid inside the wires
 - tiny particles called charges flowing through the wires
 - tiny particles called volts flowing through the wires.

- We need to use models to help us to think about electricity because:
 - it makes electricity more fun
 - charges are too small to see
 - charges are imaginary
 - electricity is not real.
- A central heating system can be used as a model for a circuit. Which of these statements is not true?
 - The boiler and pump represent the cell.
 - The pipes represent the wires.
 - The radiators represent the bulbs.
 - The pump represents an ammeter.
- Which statement describes a way in which the central heating model is *not* like an electric circuit?
 - The radiator transfers energy to the surroundings.
 - Water leaks out of the pipes if you make a gap in the pipes.
 - The pump pushes the water through the pipes.
 - You can put more radiators into a central heating circuit.

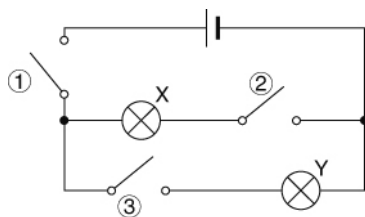
7Jc

- Which of these circuits are parallel circuits?

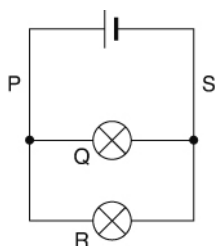


- X and Y only
- X and Z only
- Y and Z only
- all of them

- 2 Which switches must be pressed to make bulb X come on?



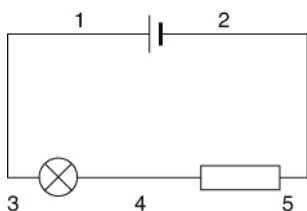
- A 1 and 2 only
 B 1 and 3 only
 C 2 and 3 only
 D all three of them
- 3 Parallel circuits are used for house lights:
- A so they can all be switched on and off together.
 B so you know when one breaks, because all the others go off.
 C so they use a bigger current.
 D so they can all be switched on and off separately.
- 4 Which of these statements is not true?



- A The currents at Q and R add up to give the current at S.
 B The current is the same at P and S.
 C The current is the same at Q and R.
 D The current is the same at P and Q.

7Jd

- 1 How can you measure the voltage across the bulb in this circuit?



- A Connect a voltmeter between points 1 and 2.
 B Connect an ammeter between points 1 and 3.
 C Connect a voltmeter between points 3 and 4.
 D Connect a voltmeter between points 4 and 5.

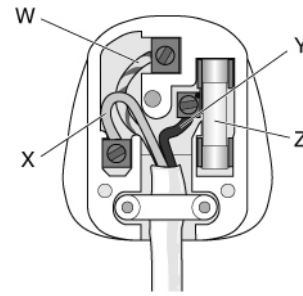
- 2 What does the voltage across a component measure?
- A The number of charges that pass through the component.
 B The size of the cell in the circuit.
 C How hard it is for the current to flow through the component.
 D The energy transferred by the current.
- 3 Which of these combinations will give the largest current in a circuit?
- A high voltage, high resistance
 B low voltage, high resistance
 C high voltage, low resistance
 D low voltage, low resistance
- 4 An obstacle in a race represents:
- A a high resistance, because it is hard for runners to get over it
 B a low resistance, because it is hard for runners to get over it
 C a high resistance, because it is easy for runners to get over it
 D a wire, because people move along the race track.

7Je

- 1 What happens if a large electric current flows through your body?
- A Your heart could stop working.
 B Your eyeballs could explode.
 C Nothing at all.
 D It will improve your circulation.
- 2 Which of these is not a good rule for using electricity safely?
- A Never use electrical appliances with wet hands.

- B** Turn off the power pack before you make any changes to your circuit.
- C** Plug as many things as you can into each socket.
- D** Do not poke things into sockets.
- 3** A fuse is:
- A** a metal strip that bends when it is hot
- B** a piece of wire that melts when it gets too hot
- C** a piece of plastic that does not let electricity through
- D** the part of a plug that sticks into a socket.

- 4** The diagram shows the inside of a plug. Which statement is **not** correct?



- A** Z is the fuse.
- B** Wire W is brown.
- C** Wire X is blue.
- D** Wire Y is the live wire.