

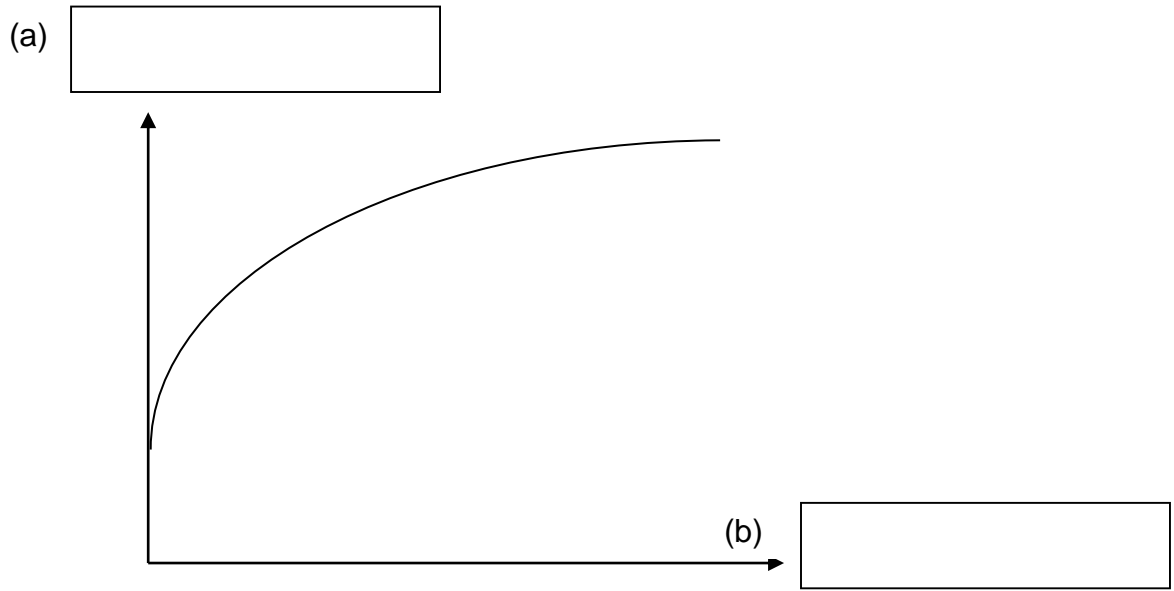
**Part II**

**For each question from 17 to 22, fill in the blanks with suitable words or phrases.**

**(13 marks)**

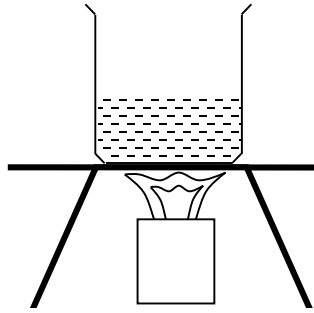
[1]

18. Wayne did his 1.6km run and recorded his heartbeat every minute using a datalogger. The datalogger displayed the graph as shown below.



Write down a suitable heading for each axis of the graph in the boxes provided above. Do include the units in your answer. [2]

21. Look at the diagram below.



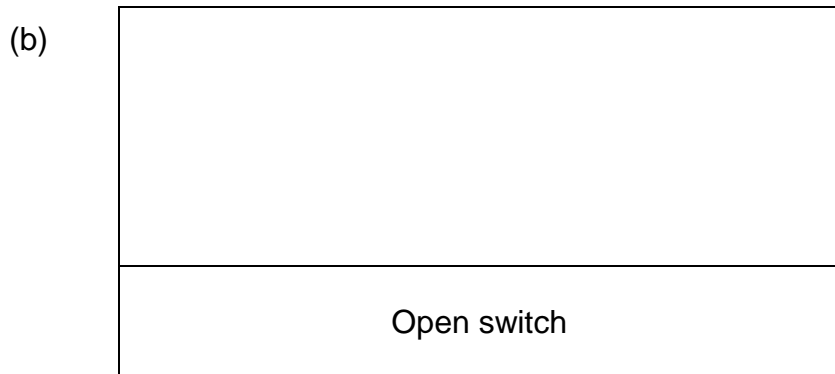
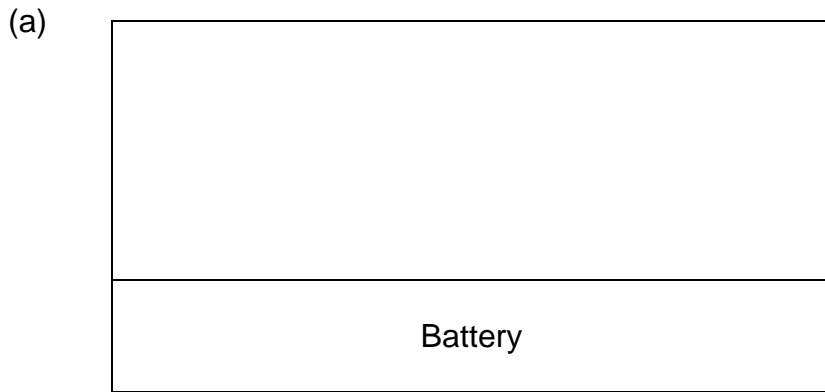
Water boils at  $100^{\circ}\text{C}$  to become \_\_\_\_\_.

During boiling, water changes from (ii) \_\_\_\_\_ state to

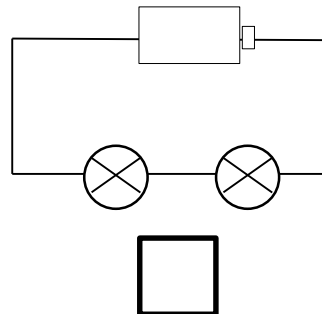
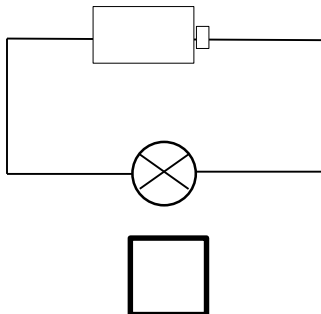
(iii) \_\_\_\_\_ state.

[3]

22. Draw the electric circuit symbols for the following electrical components. [2]



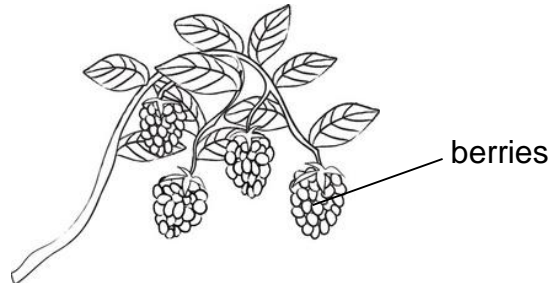
(a) Look at the circuits below. Which circuit produces the brighter bulb?  
Tick your answer the correct box below. [1]



**Part III**

For each question from 23 to 30, write your answers in the space provided.  
(25 marks)

23. Jack looked at some berries. He observed that the berries contained seeds.



(a) Why are the seeds important to the plant?

[1]

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(b) Jack also observed that birds help to disperse the seeds.

Tick one of the boxes below to show the most likely way that birds help disperse the seeds in these berries.

[1]

	Tick:
Birds shake the seeds out.	
Birds carry the seeds in their feet.	
The seeds hook onto the birds' feathers.	
Birds disperse the seeds in their droppings.	

**Question 23 continues on the next page**

(c) Jack investigated which colour berries showed up the best. He hung different coloured beads on some green plants. He used the same number of beads of each colour.

He then asked his friend to look for the beads within two minutes. Jack then counted how many beads of each colour his friend found after two minute

Here are Jack's results:

Colour of beads	Number found in 2 minutes
Black	19
Brown	12
Green	8
Red	25

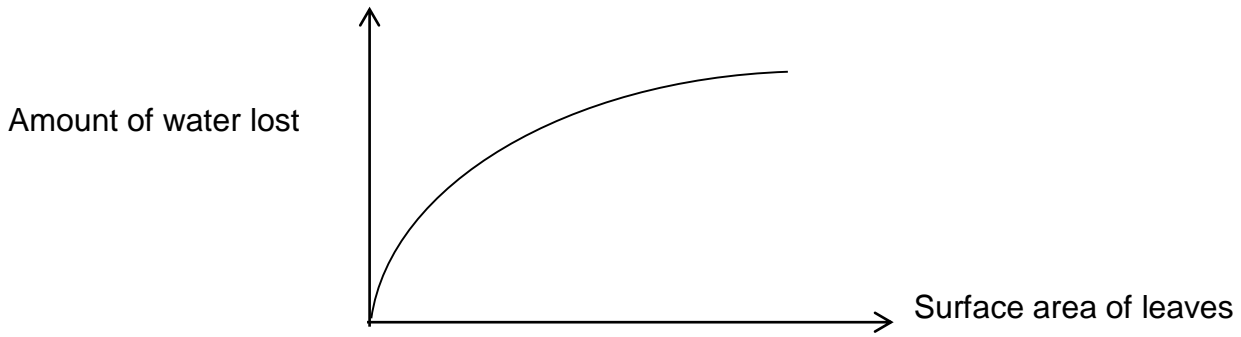
Based on his results, which coloured beads were the most difficult to be seen on the plant? Explain your answer. [1]

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26. Melissa carried out an experiment to find out the amount of water lost by leaves of different sizes. The results are shown below.



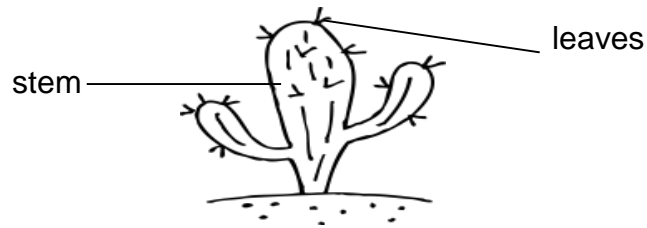
- (a) What is the relationship between the surface area of leaves and the amount of water lost? [1]

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- (b) The diagram below shows a cactus.



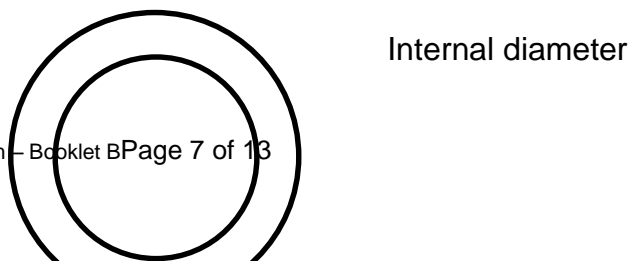
- Based on Melissa's experiment, explain how the cactus plant is able to survive in a hot desert environment. [1]

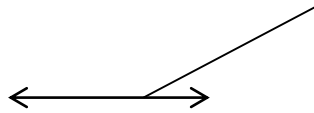
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27. The diagram below shows a metal ring.





The metal ring was heated for 8 minutes and the internal diameter was measured and recorded in the table below.

Time (min)	Internal diameter (cm)
0	3
2	3.5
4	4
6	4.5
8	5

- (a) What is the relationship between the heat gained by the metal ring and its internal diameter? [1]

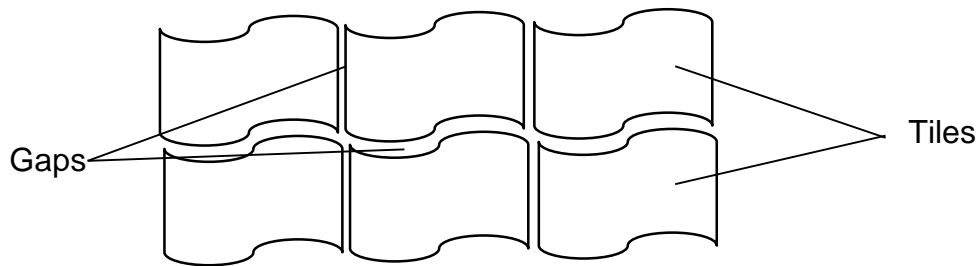
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**Question 27 continues on the next page**

Nicole observed that there were many gaps between the tiles on her classroom floor.





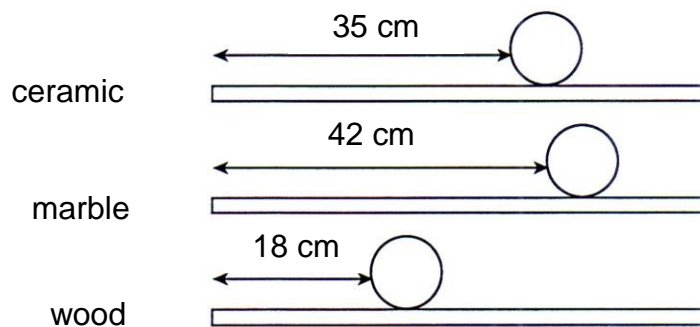
- (b) Explain why the gaps are important on hot days. [1]

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29. James rolls a ball over three different surfaces and records the distance moved by each ball.



- (a) Name one measuring instrument that James could have used to measure the distance travelled by the ball. [1]

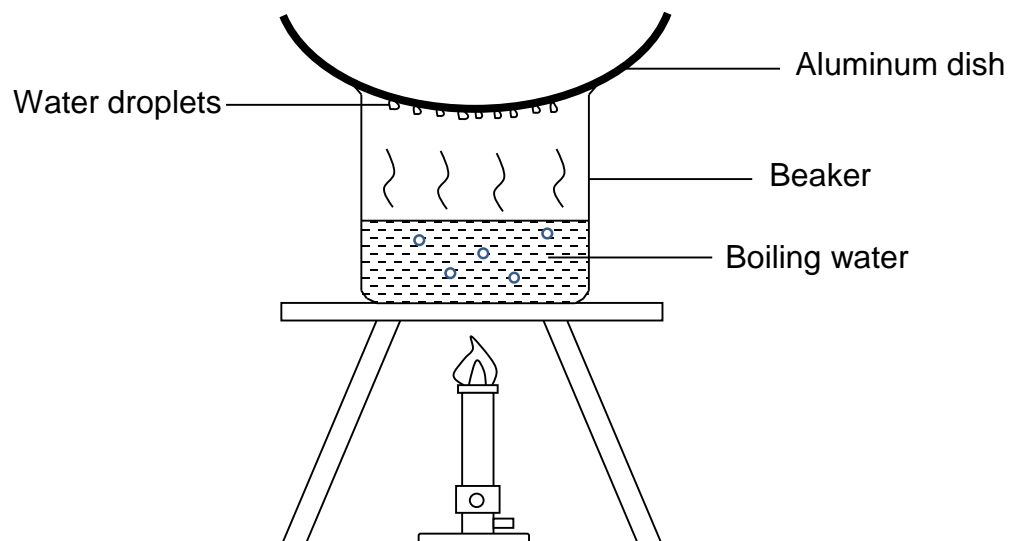
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- (b) What is the force that causes the objects to come to a stop on all the three types of tiles? [1]

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- (c) Which material is the most suitable to be used as flooring to prevent people from slipping? [1]
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- (d) State one variable that should be kept the same so that the experiment is a fair one. [1]
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30. The diagram shows a set-up that represents the water cycle.



(a) What can be found in the set-up to represent clouds? [1]

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(b) What can be done to the set-up to increase the amount of water droplets formed on the aluminum dish? [1]

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